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First Copy

A National Newspaper for Every Branch of the Industry

Automotive Daily News

PASSENGER · TRUCK · PARTS, SHOP EQUIPMENT · TIRES · ACCESSORIES

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MAR 5 1929
DETROIT

M. E. A. SEES PARTS SALES ON RECORD LEVELS FOR 1929

January, February Business Exceeds That of 1928

NEW YORK, Feb. 28.—January and February business exceeding anything for these months in the previous history of the automotive parts and equipment business is reported by the Motor and Equipment Association.

Manufacturers and wholesalers have begun the year with a vigorous upward trend in production and sales which promises to set new records for the first quarter and probably for the first half as well.

Wholesalers of service parts, accessories and shop equipment, whose reports are a new feature of the M. E. A. Business Bulletin, just issued for January, had sales throughout the United States and Canada aggregating 14 per cent. above the first month of 1928. At the same time collection conditions were improved, the aggregate of accounts receivable at the end of January showing only a 7 per cent. increase over last year as compared with a gain of twice as much in sales.

On the manufacturing side of the business, also reported in detail in the Business Bulletin, the greatest gain was in motors, bodies, parts and accessories shipped to car and truck makers for original equipment. The advance in January was 30 per cent. over the first month of last year. This increase was in keeping with the high rate of production in the car and truck factories and reflected also the steadily increasing patronage of the parts specialists by the vehicle makers.

In manufacturers' sales to the wholesale trade the January gains were healthy, but not as large as in the original equipment field, and, in fact, smaller also than the increase in business reported by jobbing houses. Service parts sales to the trade gained 3 per cent. over last January, accessory sales were down 2 per cent. and shop equipment sales were up 21 per cent.

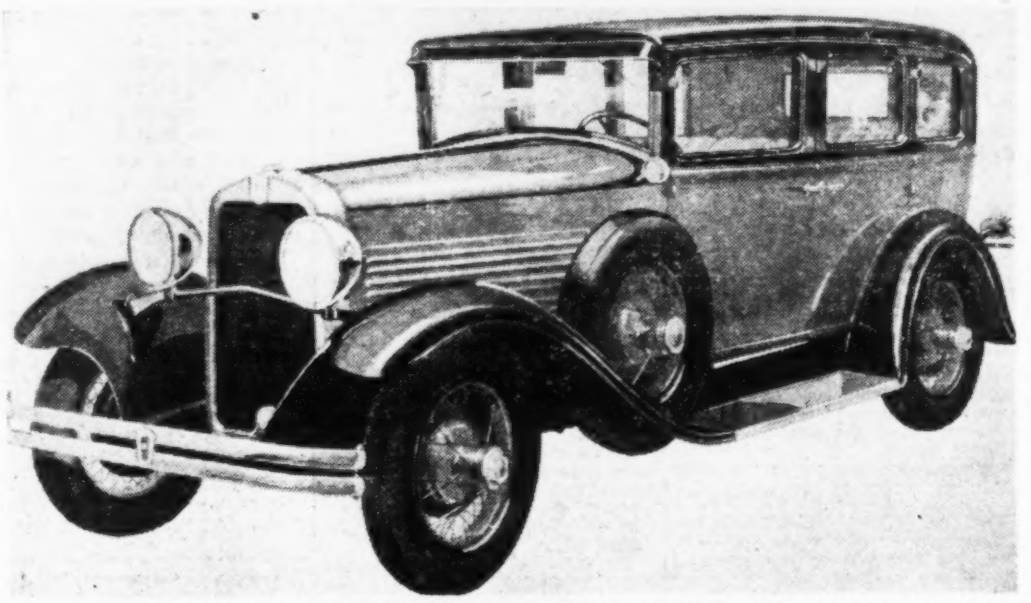
The Business Bulletin, broadened to meet the needs of the enlarged membership resulting from the merger of the Motor and Accessory Manufacturers Association and the Automotive Equipment Association into the new M. E. A., now contains detailed information on car and truck production by price and tonnage classes; original equipment, service parts, accessory and service equipment production of a group of members largely increased over last year's reports, and sales and collection conditions as reported by wholesale distributors of service parts, accessories and shop equipment in the twelve Federal Reserve

(Continued on Page 12)

AUBURN SHIPS 158 CARS IN SINGLE DAY

Chicago, Feb. 28.—Auburn Automobile Company on Monday shipped 158 cars, largest single day's shipment in its history. February shipments are estimated at 2,600 cars, against 604 in February, 1928, bringing shipments in first three months of fiscal year to about 5,300 cars, against 1,634 in the same period of the previous year.

New Roosevelt 8 Five-Passenger Sedan, $995



GASOLINE PRICE WAR ON PACIFIC COAST PROVING COSTLY TO MARKETERS

Los Angeles, Feb. 28.—Without attempting to predict the duration of the present gasoline price war or the possibility of further cuts in prices, it is apparent that if the present unsettled situation is prolonged it will prove costly to large marketers.

Less than a month ago the posted price for retail sales of gasoline at company-owned stations was 20½ cents a gallon, with a 4-cent differential to dealers and a further 2-cent allowance on long-term contracts. Two weeks ago the first cut of 2 cents a gallon was made, and last week a similar cut was put into effect.

As the matter now stands the posted tank wagon price quoted by General Petroleum Corporation (Standard Oil of New York) and Texas Corporation, is 11½ cents, tax included, with 12½ cents quoted by other large marketers. The posted retail price at company-owned stations is generally 16½ cents. Actually, what marketers are receiving is 9½ cents and 10½ cents, including tax. Deducting the 3-cent state tax paid by the companies brings actual return to 6½ and 7½ cents a gallon, respectively.

On the basis of total gallonage sold by various companies, the 4-cent cut in the past two weeks is costing the marketers around $120,000 daily.

MOTOR PRODUCTS CORP. TO VOTE STOCK CHANGE

New York, Feb. 28.—A special meeting of common stockholders of Motor Products Corporation has been called for March 25 to act on a plan for changing the capital structure and for making certain employment and stock purchase agreements with certain employees. It is proposed to increase the total number of shares to not exceeding 500,000 of no-par value.

The report of the corporation for the year ended December 31, 1928, shows a net profit of $2,643,749 after interest, depreciation, Federal taxes, etc., equivalent after dividends on $5 preferred stock to $19.10 a share on 130,406 no-par shares of common stock. In 1927 the profit before Federal taxes was $575,879.

IN tomorrow's issue, Saturday, March 2, 1929, of The Automotive Daily News there will appear the complete passenger car registration table for 1928, by makes and states.

GOODRICH SILVER FLEET REACHES PENSACOLA 2 HOURS AHEAD OF TIME

Pensacola, Fla., Feb. 28.—Departing from the capital city of Florida yesterday morning the silver fleet continued pushing its way westward through heavy rains and over slippery roads, according to a report from Commander H. R. Schaeffer.

A 250-mile run was made, and in its regular a la Lindbergh manner the fleet arrived in Pensacola two hours ahead of time. The entire fleet required complete washing, due to a detour over muddy roads. A stop was made at Milton, Fla., where various tire demonstrations were conducted by the pilots.

Westward ho tomorrow to Mobile, Ala.

WINDSOR FACTORY AT CAPACITY PRODUCTION

St. Louis, Feb. 28.—"The Windsor factory in St. Louis is now operating full capacity," says C. W. Burst, president of the Windsor Corporation.

"We have added over 100 employees during the month of February and the number of unfilled orders now on hand, together with prospective business, clearly indicates we will have to again increase our force to take care of March business. It has also been necessary to add another shift to our factory program. We have already surpassed the quotas set for the first period of 1929. The most gratifying feature about Windsor's record is that it is not confined to any one section of the country, but has been spread out from coast to coast."

RADIO LICENSE PERMITS TO FORD MOTOR DENIED

Washington, Feb. 28.—Efforts of the Ford Motor Company to set up private radio communications from Dearborn, Mich., with its cargo ships on the Great Lakes and with the Ford Rubber plantation in Liberia were halted when the Federal Radio Commission denied its application for six commercial licenses.

22,000 KANSAS FARMERS SEE ROAD EQUIPMENT AT SHOW IN WICHITA

Wichita, Kan., Feb. 28.—More than 22,000 attended the combined power farm equipment show and Southwest road show and school here on the first two days of this week. Actual sales of machinery totaling $2,000,000 are expected.

Fifty-three exhibitors of road equipment and kindred industries have a large assortment of machinery on display.

Speakers at the road show and school are R. W. Crum, Washington, D. C., director of the highway research board, National Research Council; P. J. Freeman, chief engineer of the Bureau of Tests and Specifications of Pittsburgh; J. F. Seiler of the American Wood Preservers' Association of Chicago; H. B. Shaw, director of the engineering experiment stations of the North Carolina State College.

MARMON OFFERS ROOSEVELT EIGHT SEDAN AT $995

Has 70 H. P. Engine, 4-Wheel Brakes, Hydraulic Absorbers

INDIANAPOLIS, Feb. 28.—Specifications on the Marmon-built Roosevelt, the first eight-cylinder car to sell under $1,000, reveal many outstanding features of design, including an eight cylinder, 70 horse power engine, four-wheel brakes, Lovejoy shock absorbers engineered into the frame, unit control of lights, starter and horn centered in a single button at the steering wheel hub.

The new car will be offered in four body styles with an overall length of 172 inches—a five-passenger sedan listed at $995. Other models consist of a four-passenger Victoria coupe, two-passenger coupe with rumble seat, and a collapsible coupe with rumble seat, with prices to be announced later. The Roosevelt will be announced to the public from coast to coast on a single day, March 23.

Although characteristically Marmon in appearance, the Roosevelt has been given new and unique identification by means of a high, narrow radiator bearing a small in-

(Continued on page 2)

JANUARY EMPLOYMENT AT GOODRICH HIGHER

New York, Feb. 28.—J. D. Tew, president of the B. F. Goodrich Rubber Company, said today that employment at Goodrich was not only greater during January, but also the percentage of labor turnover was less during December, 1928,

S. A. E. Announces Fourteen Section Meetings for March

New York, Feb. 28.—Section meetings in fourteen centers are announced for March by the Society of Automotive Engineers as follows:—

Chicago Section, March 5—"The Development of a Steam Bus and Its Accessory Equipment," D. McCall White, consulting engineer Automotive Syndicate, Indianapolis, Ind.

Milwaukee Section, March 6—Milwaukee Athletic Club, Diesel engine meeting.

Detroit Section, March 11—New General Motors Research Building; "Economics of Operation and Maintenance of Motor Vehicles," F. K. Glynn, American Telephone and Telegraph Company.

Cleveland Section, March 11—Aeronautical meeting, with dinner. Capt. L. M. Woolson, aeronautical and research engineer Packard Motor Company.

Canadian Section, March 13—King Edward Hotel, Toronto.

Pennsylvania Section, March 13—Philadelphia Auto Trades Association, Philadelphia. "Automotive Diesel Engines," A. E. Canning, chief engineer Stearns Laboratory, Hanna Building, Cleveland; "Beardmore Diesel Engine," D. W. R. Morgan, Westinghouse Company.

Indiana Section, March 14—Hotel Severin Roof Garden, Indianapolis. "Value and Advantages of Three and Four Speed Transformations," Howard E. Blood, president Detroit Gear and Machine Company; Samuel O. White, chief engineer Warner Gear Company.

Southern California Section, March 15—Elks' Club, Los Angeles. No technical meeting. March annual dinner, dance.

Northwest Section, March 16—Seattle, Wash., "Story of Petroleum," E. S. Evans, Standard Oil Company, California.

Dayton Section, March 19—Engineers' Club. "The Development of the Fire Engine," Charles H. Fox, president and general manager Ahrens Fox Fire Engine Company." Illustrated.

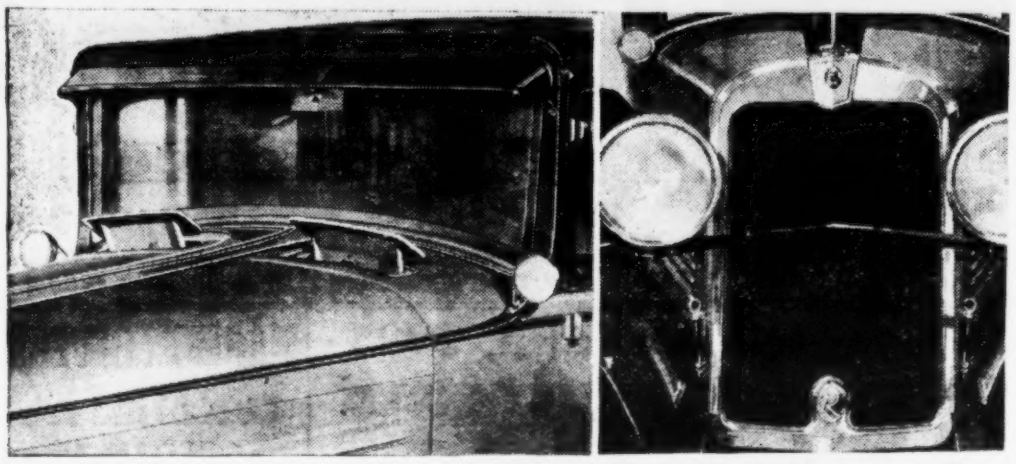
New England Section, March 20—Engineers' Club, Boston.

Metropolitan Section, March 21—Park Central Hotel, New York city. Fuels and lubricants session, Neil MacCoull, Texas Company.

Detroit Section, March 25—Book-Cadillac. Body division meeting; "This Body Business," R. E. Chamberlain, general sales manager, Packard.

Buffalo Section, March 26—Hotel Statler, Buffalo; "Lighter Than Air Ships," V. R. Jacobs, Goodyear Tire and Rubber Company.

Roosevelt Bodies Reveal Many Advancements



Among the features of the new Roosevelt Eight bodies are the double cowl ventilators, new mounting of cowl lights and the new narrow radiator surmounted by a medallion of former President Roosevelt and a larger letter R in a decorative plate at the bottom of the radiator.

Marmon Reveals Details Of New Roosevelt Eight

(Continued from Page 1)

signia with a head of the famous President at the top and a large "R" medallion in the lower center. This identification is augmented on the bumpers and hub caps, and a long, sweeping hood with curved top paneling. A distinct stream line effect is obtained by side moldings which extend from the front of the hood in an uninterrupted straight line to the rear of the body.

The eight-in-line motor is of L-head design with a bore of 2¾ inches and a stroke of 4½ inches, and a piston displacement of 201.9 cubic inches. Power in excess of 70 horse power is developed at 3,200 revolutions per minute which, in combination with light reciprocating parts and the use of the Marmon modulator, gives a maximum of smoothness and performance. The S. A. E. rating of the engine is 24.2 horse power.

The cylinder are cast en bloc with the upper half of the crank case cast iron and the lower half pressed steel. The engine is mounted to the frame on a rigid four-point suspension. Standard compression ratio in all models is 5.25 to 1.

An unusually heavy crank shaft is used, and is mounted on five interchangeable main bearings, each with a diameter of 2⅛ inches. Thrust is taken on the center main bearing, which is 1¾ inches in length. The crank shaft is balanced statically and dynamically, no counter-weights being necessary, and, following Marmon precision standards, the bearings are fitted without the use of shims.

Pistons are manufactured of permite, an aluminum alloy, which combines the hardness and wearing qualities of cast iron and the lightness of aluminum. Of Marmon manufacture, they resist carbon deposits and dissipate heat rapidly. Two compression rings and one oil ring, all above the piston pin, are used. Connecting rods are one-piece drop forgings of I-beam cross-sections, and connecting rod bearings likewise are fitted without the use of shims.

The cam shaft is driven from the crank shaft by a double roller chain. Fan, generator and water pump are driven from the crank shaft by means of a V belt, with the fan and water pump integral.

Intake valves have an overall diameter of 1½ inches and seat at a 45 degree angle. Exhaust valves are of silichrome steel, 1½ inches in diameter and also seat at 45 degrees. Both intake and exhaust valves have a lift of ⅜ inches.

Full pressure lubrication is provided to all moving parts by means of a gear-type pump mounted in the oil sump and controlled by a pressure regulator. The capacity of the crank case is six quarts with a sword type oil level gauge and breather cap on the left side of the engine. An oil pressure gauge is included in the instrument cluster.

A fourteen-gallon gasoline tank is mounted on the rear and fuel is fed to a 1¼-inch carburetor with hot spot by means of a vacuum tank mounted on the dash. A gasoline filter is built into the vacuum tank.

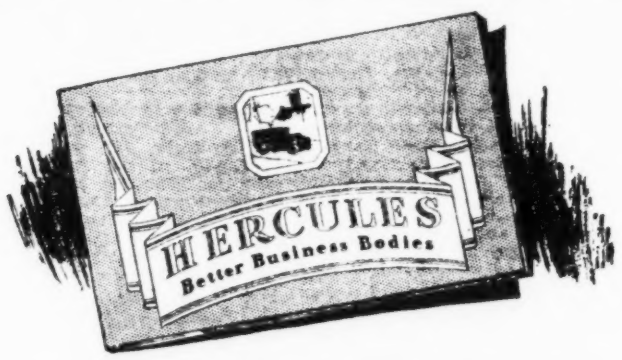
A three-unit electrical system is employed on the Roosevelt, with the starter, generator and distributor operating independently of each other. The generator is driven by a belt directly from the crankshaft. The distributor is mounted on the top of the cylinder block, where it is protected from damage by water. The starter is mounted directly on the engine base and, operated by a button on the steering column, is positive in its action. A six-volt, 110-ampere battery is used.

Special attention has been paid to the cooling system, and not only is water circulated by means of an impeller-type pump but the system is so designed that thermo-syphon action takes place. The cylinders are water-jacketed for the entire length of piston travel, and the valve stem guides likewise are cooled by water-jacketing.

Automatic thermostatic control

(Continued on page 11)

NOW READY



The New Hercules Catalog *of* Better Business Bodies

This 64-page color catalog illustrates the complete line of Hercules Better Business Bodies for the Chevrolet Light Delivery and the Chevrolet Utility 1½-Ton Truck. It shows a body for every haulage need. The catalog contains illustrations of over fifty models . . . fifty—and more—evident reasons why Hercules is the WORLD'S LARGEST BUILDER OF BETTER BUSINESS BODIES.

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The World's Largest Builder of BETTER BUSINESS BODIES—*Distributors Everywhere*

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Classified Rates 5c Per Word

SITUATION WANTED

EXECUTIVE
Now vice-president and general manager of retail establishment doing volume of over $700,000, with two leading lines, desires change of location due to wife's health. 32 years of age, last five as executive in complete charge. Box 194, Automotive Daily News, 2716 Graybar Bldg., New York City.

SPARKS *from* DETROIT

Automobile Beacons

* * *

Co-ordinated Highways

* * *

Welcome Strangers

AN innovation in bridge construction will mark the opening, early this summer, of the new Ambassador Bridge connecting Detroit with the border cities of Ontario. The innovation will consist of huge electrical signs emblazoned with the name of the bridge, thus aiding the motorist approaching from either side to easily locate its terminals.

The two towers, according to J. L. Fozard, vice-president and general manager of the International Bridge, are to be surmounted by the words, "Ambassador Bridge," in letters six feet high. The words will be placed one above the other on a sign approximately seventy-five feet wide and 400 feet above the water level.

This addition will be a valuable aid to motorists as well as aviators passing over the city, and may be used by them in conjunction with the neon aerial beacon eighty feet above the tower of the new Penobscot Building and the neon sign on the Barlum Tower as direction finders. The new bridge signs will be neon lighted also.

The contract for the new signs has been let to the Bellows-Claude Neon Corporation.

* * *

Proposals for a co-ordinated highway system were advocated yesterday by the United States Chamber of Commerce in Washington, as the result of a referendum vote taken among its 1,600 members. Fred J. Haynes of Detroit, president of Durant, Inc., and A. J. Brosseau, president of Mack Trucks, Inc., were among the strongest backers of the referendum.

The rapid progress of the automobile industry and the universal adoption of the automobile as a means of transportation would seem to make the co-ordination of highway construction and maintenance throughout the United States mandatory. No other medium has played such an important part in welding together the peoples of this hemisphere. Nothing should be left undone which would tend in the least to further its usefulness to this end.

Careful planning of interstate roadways to facilitate interstate traffic and the adoption of more uniform traffic laws would increase the usefulness of the automobile and cut down the distance between our house and our neighbor's.

* * *

THE new Roosevelt, by Marmon, is with us today. The Viking will be with us in the very near future. Both names are synonymy with noble lineage. The products of no other industry are better fitted to bear them.

* * *

Whether it is the effect of the Stribling-Sharkey go, which held forth Wednesday in Miami, or not, we can't say, but 670 traffic cases were dropped from the docket last week by Judge Kilpatrick of the Recorders' Court because in the majority of cases the defendants could not be found and in the remainder the complaining police officers were no longer connected with the department. Perhaps our towering skyline has led the policemen to believe that they are New York police commissioners or mayors.

* * *

HUPMOBILE has launched a really noble experiment in its campaign, now getting under way, urging drivers to exercise greater care in driving. To be sure, the driver is not always to blame in accident cases, and in the majority of cases it would appear that if pedestrians were equally attentive, our national accident rate would be much lower.

Among the rules set down for safety is one which calls for the strict observance of traffic rules regulating speed. In many states the present speed laws are, or should be, obsolete. Traffic officers themselves are often willing to shade off a few miles per hour in favor of the motorist, and this practice often results in woe for the motorist when he runs into an officer who refuses to shade.

One of the urgent needs at this time, in addition to campaigns for safe driving, is a national revision of the laws governing motoring to bring the laws themselves abreast of the times. When the laws have thus been adjusted they should be enforced without favor and without malice.

* * *

PARIS, the world's playground, was visibly flabbergasted at the recent automobile show at the sight of a Goodrich tire rolling backward and forward across a strip of sand without visible means of support or propulsion. More miraculous still was the fact that the tire would stop and start at a mere signal from one of the watchers.

Even the astute minister of public works admitted, in French, that it was over his head.

The device was explained by

(Continued on Page 4)

Activity Marks Deliveries of New Cars in Texas

Economic Outlook Reflects Generally Sound Conditions

DALLAS, TEX., Feb. 28 (U. T. P. S.).—The outstanding feature of the automotive business in Texas at this time is the increased number of sales and deliveries of new Ford cars.

During February Ford deliveries were crowding the topnotchers in the low-priced field because the dealers were in a position to say just when delivery would be made on a sale and could make the delivery when promised. The production at factory branches in Texas, along with the main factory, enabled many of the dealers to make deliveries of some models when the order was taken and could get others within ten or fifteen days. Ford sales and deliveries showed an increase of some 20 per cent. over January.

Another thing which has developed with the increased delivery of Ford cars is the increased allowance on used cars offered for trade on new ones. This may develop an ugly situation: that of the dealers being loaded up on old cars upon which they made allowances they never can hope to realize in sales. The competition in the low-priced class in Texas is becoming keener as the Ford deliveries increase. There is no price cutting on new cars, but there are better allowances for old cars in trades and better terms offered for partial payments.

The actual sales of new cars in this section during February, Fords not included, were some 7 per cent. below that of January and some 6 per cent. above that of February a year ago. January was a record month for new car sales in Texas. The February business was about what the dealers had anticipated. The dealers declare the trade reflects sound conditions and bright prospects for the next sixty days. The new car stocks are not heavy, except on certain models. On some models enough cars cannot be had to meet demands. The medium-priced cars are moving fairly well and the business in machines of the higher prices is normal. The vast majority of the new car sales involve trade and the installment plan of payment.

Used car sales for February were some 10 per cent. less than for January and 3 per cent. greater than for February, 1928. The dealers have pretty heavy stocks and the prices are low. Some dealers are staging special sales and others auctions to move machines out. A good many sales involve trade and budget plans for payment. The best used car business right now is in the cities and the smaller towns.

G. M. C. TRUCK BRANCH AT KANSAS CITY HOST TO DISTRICT DEALERS

Kansas City, Feb. 28.—The Kansas City branch of the General Motors Truck Company was host to about sixty dealers in the territory during the Kansas City automobile show. C. F. Rouze, new branch manager here, with H. W. Howard, divisional representative of G. M. C. Trucks, conducted the meeting, which included a showing of the 1929 line of trucks, an illustrated lecture by Mr. Howard and an outlining of the company's policy for the year. A buffet luncheon was served in the branch building.

Mr. Rouze succeeds Estel Scott as branch manager here, Mr. Scott having resigned after about twenty years with the G. M. C. organization. Mr. Scott left at once with Mrs. Scott for a trip around the world. His resignation did not become generally known until recently, most of those on Motor Row believing he was on a vacation. His greetings to the twenty-third annual automobile show were cabled from Cairo, Egypt.

Mr. Rouze has been with G. M. C. twenty-one years. He was with the factory organization six years and the last four years has been branch sales manager here.

DALLAS TIRE BUSINESS SHOWS SLIGHT DECLINE

Dallas, Tex., Feb. 28 (U. T. P. S.).—The tire and tube business in February, in this city, was not so good as in January. The prices are holding fairly firm. A good many dealers are offering budget plans for payments and placing strict guarantees on performance. Practically all of them are featuring service to combat stiff competition from chain stores and mail order houses. The outlook for this line of business is somewhat better.

The accessory, parts and equipment business is seasonal. A fair amount of heavy shop equipment has been moving to the larger garages, while the small tool business has been fair. Seasonal accessories are moving fairly well. The dealers are "cleaning out" to stock up with the spring lines. The trade in the electrical lines is only fair.

Truck sales in the rural districts are slumping. The actual sales all over the district are lower than for January. Most of the business at present is on the replacement basis.

S. J. FITZGERALD TO HANDLE JORDAN AT KANSAS CITY

Kansas City, Feb. 28.—S. J. Fitzgerald, formerly Velie distributor here, has taken on the Jordan line. His company is known as the Jordan-Warwick Motor Company and is located at 43d Street and Warwick Boulevard.

Norfolk Dealers Urge State-Wide Association

By ELLIS LOVELESS

NORFOLK, VA., Feb. 28.—C. E. (Eddy) Wright was re-elected president of the Norfolk Automobile Dealers' Association for the ensuing year at a meeting of that organization, held recently in the office of Motor Sales and Service, Inc.

Others elected to office were, F. H. Huttmann of the Arthur W. Depue Company, vice-president, and R. A. (Dick) Ayers of Elliot Motor Company, secretary and treasurer.

The remainder of the meeting was devoted to the outlining and discussion of the work to be undertaken during 1929. The members also decided to hold weekly luncheon meetings on Mondays. Heretofore the association has been holding monthly meetings.

Plans are being discussed by a special committee of the Norfolk Automotive Dealers' Association for an organization of all automobile dealers in Virginia, not alone for reduction of taxes in licenses on their own business and for private car owners, but to raise standards and for mutual protection.

C. E. Wright, chairman of the special committee, said the automobile dealers had no selfish motive in mind in proposing a state-wide organization, but believed a great deal of good could be accomplished for the business generally, including distributors, dealers and car owners, through raising and maintaining high standards, as well as presenting a united front in matters affecting legislation. Other members of the committee are Irving B. Kline, F. H. Huttmann and B. R. Wrenn.

Mr. Wright says there are more than 1,000 automobile dealers in Virginia, but that there is no centralized organization through which they can speak on matters of legislation, taxation or otherwise. Co-operation on the part of manufacturers and distributors in the plans is said to be assured.

CHARLOTTE READY FOR CAR DISPLAY WEEK

Charlotte, N. C., Feb. 28.—Fred Anderson, chairman of publicity for the event, stated today that final arrangements have been completed for the opening, next Saturday, of Charlotte's automobile display week.

Virtually every automobile dealer in the city is taking part in the show, according to Mr. Anderson, and officials of the Automotive Merchants' Association here, which is sponsoring the event, expect it to be the greatest ever held in this section.

14TH ANNUAL SHOW ON AT SPRINGFIELD

Springfield, Mass., Feb. 28.—The Fourteenth Annual Automobile Show opened at the Auditorium Tuesday night with a crowd of 1,256 in attendance, of which a good number were women, who showed themselves appreciative of and interested in the upholstery and appointments of the attractive new models. Opening night is mostly a local gathering, but Rutland, Vt., was represented in the first night's gathering. One ambitious prospect signed up for sixteen demonstrations this week for as many different cars.

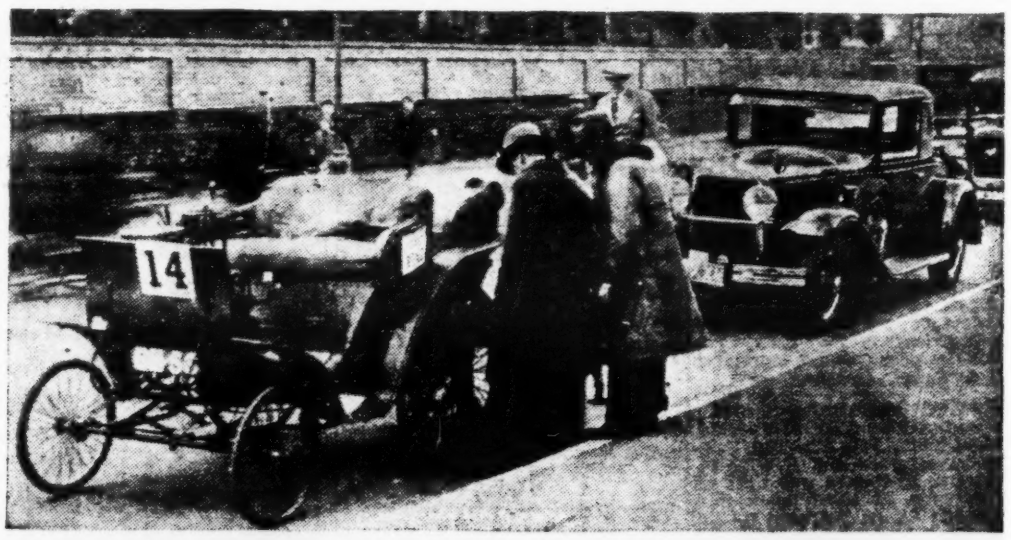
SALES AT TRENTON SHOW INCREASE 20 TO 30%; ATTENDANCE IMPROVES

Trenton, N. J., Feb. 28.—The Trenton Automobile Trade Association, holding its annual motor show in the armory, reports sales 20 to 30 per cent. greater than last year and an average daily attendance of 10,000.

Members of the association predict a good year for the automobile industry in this vicinity. Not only have many sales been recorded at the show, but a large number of exceptionally good prospects have been booked, according to John L. Brock, president, and Harold Brooks, secretary, of the association. More than 200 cars of the latest styles are on exhibition.

Officers and directors of the New Jersey Automotive Trade Association, headed by Morgan Hatch of Camden, president, attended the exhibit. These officials, representing every county in New Jersey, highly complimented the Trenton dealers upon the show.

Gardner Coupe Escorts One-Cylinder Benz



IN THE RECENT VETERAN CARS COMMEMORATION RUN from London to Brighton, England, conducted by the Royal Automobile Club, a 1929 Gardner coupe accompanied a model 1897 Benz during the last twelve miles of the run, as shown above. The run celebrated the thirty-second anniversary of Emancipation Day in England, when the act of 1896 came into force permitting motor cars to run upon the highway without being preceded by a man carrying a red flag and limiting the maximum rate of travel to twelve miles per hour.

Modern Advertising To Sell Champion Cars

Public movietone showings and coast to coast radio programs augment Studebaker's newspaper, magazine and direct mail campaigns. Thus Studebaker employs a diversified type of modern advertising media to aid Studebaker dealers in selling champion motor cars.

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AMERICA'S FRIENDLIEST FACTORY

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Write or wire now for complete information on the new Studebaker franchise to

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Automotive Daily News

"Of, By and For the Entire Automotive Industry"

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Experimenting

DOWN in Florida, where most men go for complete relaxation and to forget business, two veteran youngsters have been showing us a better way to spend a vacation. Thomas A. Edison and Henry Ford have gotten together in the balmy West Coast air, and, instead of lying aimlessly on the beach in bathing suits, they have put their brains to work in trying to solve some of the workaday problems that are so fascinating to them.

Ford recently told interviewers that they were trying "to make a straight line out of a circle." Exactly what they are working on is a method of eliminating the sixteen bushings that each Ford Model A chassis requires. When we remember that production at the Ford plants is now running about 7,000 vehicles a day, we are not surprised to learn that it takes 800 men working all day and every day to produce the bushings needed for the production line.

If these two enthusiasts do find a way to eliminate the traditional bushing, the 800 men who have been furnishing these parts for the Model A need not fear being out of work, because the same mind that finds a way to do without bushings will find some other way of putting them to a new task for the betterment of his car.

And, as if this problem were not enough to occupy the two youthful and curiosity-filled brains in Florida, they are devoting what leisure remains to the problem of producing a home-grown rubber supply. Ford has turned over to Edison a 20,000-acre tract in Georgia, and experiments in growing rubber-yielding plants will be started on a wholesale scale on this plantation this summer.

Certainly an unusual way of spending a vacation, but we warrant that both Edison and Ford will tell you that it is better fun that lolling on the beach.

Anti-Knock Fuels Score

SOME years ago, when the idea of a motor fuel doped with with some chemical to prevent knocking in the engine was new in this country, many wild rumors were put in circulation and believed by people not capable of scientific analysis. Actually the general use of these anti-knock fuels was held up through a totally unfounded belief that the chemicals used in them were injurious, or even fatal, to those who came in contact with the exhaust gases from the engine. Wild stories of poisoned motorists were circulated and reports of dying populace were current so that some states were actually stampeded into forbidding the use of these doped fuels.

The chemical compound used to prevent knocking by mixing with the ordinary gasoline fuel was tetraethyl-lead. Any motorist who undertook to drink this compound would undoubtedly have suffered serious inconvenience. That the tetraethyl-lead remaining after combustion and emitted in the exhaust fumes would injure any one was outside reason. Yet for a long time the legend persisted. Time and experience have served to dispose of this myth and the anti-knock fuels are now used freely everywhere. Their general use has made possible the higher compression ratios that engineers are now employing to add efficiency to their engines.

And now comes a scientific test which indicates that fuel treated with tetraethyl-lead is actually less harmful than plain gasoline. The Bureau of Mines in Washington has conducted an exhaustive series of tests with a tetraethyl-lead-charged fuel and finds that this mixture under certain conditions produces less carbon-monoxide gas than unadulterated gasoline. The reason for this is obvious. The doped fuel gives more complete combustion than ordinary gas. Carbon monoxide is a by-product resulting from incomplete combustion—and there you are. But it is curious how a real development can be delayed sometimes by misunderstanding on the part of the general public.

BARNES-GIBSON-RAYMOND ACQUIRES COOK SPRING; A. J. DONALLY RETIRES

Ann Harbor, Mich., Feb. 28.—The plant and facilities of the Cook Spring Company have been acquired by Barnes-Gibson-Raymond, Inc., 6400 Miller Ave., Detroit. For some time A. J. Donally has been desirous of retiring actively from business, and has resigned as president of the Cook Spring Company. No other changes will take place at the Cook Spring plant, and the Detroit plant will be known as the Detroit division of Barnes-Gibson-Raymond, Inc., and the Ann Harbor plant as the Cook Spring Company division.

Business will be conducted as heretofore, individually with each plant, with the exception that the purchasing department of both plants may be under one central head, and accounting and cost methods at both plants under the same management. The sales of the Detroit division will be handled by William J. Black, and the Cook Spring Company division by William A. Scholey.

At a recent meeting of the directors the following officers were elected: Lyman D. Adams, president and general manager; F. M. Raymond, vice-president; William J. Black, secretary; William A. Scholey, assistant secretary; William M. Barr, treasurer; Melvin E. Donally, assistant treasurer.

The chairman of the board of directors is Fuller F. Barnes.

BASSICK CO. SELLS ITS PLANT IN NEWARK, N. J.

Newark, N. J., Feb. 28.—The Bassick Company, a Stewart-Warner subsidiary, has sold to the Kohler Company of Kohler, Wis., an industrial parcel fronting more than 400 feet on the south side of Passaic Avenue. The Kohler Company plans to erect a larger building and improve a structure of more than 43,000 square feet now on the site, the parcel to be occupied as showroom and a distributing warehouse for the metropolitan area.

The property is served by a branch of the Central Railroad of New Jersey. Highway facilities and accessibility to the vehicular tunnel were deciding factors in selection of the site.

GIANT TIRE & RUBBER ADDS FOUR MANAGERS

Findlay, O., Feb. 23.—C. H. Hart, president of the Giant Tire and Rubber Company, announces the addition of four divisional sales managerships to the existing sales organizations, so that closer contact can be had with dealers and their customers.

To fill these newly created positions, promotions have been made within the company. These new appointments are effective immediately: C. H. Harrington of Leroy, Ill., sales manager in charge of the Northwestern division; R. O. Davis of Columbus, O., to direct the Northeastern division; M. G. Vann of Fayettesville, N. C., in charge of the Southeastern division; H. J. Wagle of Dayton, O., supervision over the Southwestern division.

THE PREMIER SERVICE COMPANY CHANGES NAME

Cleveland, Feb. 28.—The Premier Service Company, the distributing and service subsidiary of Electric Vacuum Cleaner Company, Inc., manufacturer of Premier electric vacuum cleaners, is now the Premier Vacuum Cleaner Company.

Under its new name Premier will continue to maintain branch offices in all large cities of the United States. In over eighty-five cities its service departments are equipped to render immediate service.

Officers of the Premier Vacuum Cleaner Company are: Julius Tuteur, president; R. B. Wilson, vice-president; A. V. Cannon, secretary; E. S. Patterson, treasurer.

100 ATTEND FEBRUARY S. A. E. MEETING IN PHILADELPHIA

Philadelphia, Feb. 28.—The February meeting of the Society of Automotive Engineers was held at the quarters of the Philadelphia Automobile Trade Association, 215 North Broad St., more than 100 members and guests attending.

Omaha, Feb. 28.—The Ford Motor Company has employed 100 new employees at its Omaha plant, making total 1,060 employees at the Omaha branch.

L.C.Smith Assigns 13N.S.P.A Jobber-Aid Sub-Committees

DETROIT, Feb. 28.—The N. S. P. A. Merchandising and Standardization Committee, enlarged to include thirteen different activities under the general head of merchandising, met at headquarters and heard Chairman L. C. Smith, who stressed the necessity for close co-operation and earnest application, so that the maximum benefits for the committee might be accomplished.

He also stated it was his desire to assign members to the subcommittees for which their experience and temperament best fitted. A general round-table discussion followed, in the course of which the following appointments and acceptances were made, covering the thirteen major sub-divisions of the committee. The members first named will serve as sub-committee chairmen:—

Jobber local advertising, Chairman Smith, A. L. Treitman, H. L. Coggins; advertising and publicity, Vice-Chairman F. S. Durham, R. M. Allison, J. N. Kirk; cataloguing, Ira Saks, T. S. Grape; jobber sales, stock and record forms, O. M. Anderson, T. J. Moore; jobber credit information, L. N. Diedrich, Ira Saks; obsolescense, manufacturer and jobber, C. M. Burgess, T. C. Olson; co-operative deliveries, T. S. Grape, Ira Saks; store and shop layouts and operation of mechanical departments, T. S. Grape; education of counter men, F. J. Glennon, Verne W. Olson; systematizing of coverage by jobber salesmen, C. M. Bunnell, Verne W. Olson; new fields for jobber distribution, C. M. Bunnell, Verne W. Olson, T. S. Grape; manufacturer members distribution through jobber members, J. N. Kirk, A. L. Treitman; follow-up of warehousing code of ethics, F. J. Glennon, A. L. Treitman, Chairman Smith.

The merchandising sessions, which took up the larger part of two days, revealed not only the many worthwhile activities which the association has under way for the benefit of members, but also were impressive by reason of the fact that they generated specific action rather than simply discussion.

Six different recommendations were made during the meeting, as follows:—

1. Following a discussion of jobber local advertising, it was decided to prepare and forward a questionnaire to jobber members, so that the results of jobber advertising of various types in different localities may be accurately checked.

2. A campaign was approved for the purpose of increasing the circulation of the N. S. P. A. news.

3. It was decided to prepare a series of letters to be sent to both manufacturer and jobber members emphasizing the importance of using and displaying the N. S. P. A. emblem wherever and whenever possible.

4. In order to more quickly secure the adoption of universal stock numbers it was recommended that the catalogue division collaborate with the official catalogue house in the preparation of lists for five of the major lines and upon completion should proceed to help secure their adoption by the manufacturer groups involved.

5. Investigation and study preparatory to the preparation of a revised manual of standardized practices adapted to the use of bookkeeping machines to be reported to the jobber sales, stock and record forms division was recommended.

6. Two per cent, tenth prox. terms were recommended for adoption by all manufacturers as the standard cash discount terms.

In addition to these recommendations, a general round-table discussion followed on the other divisions under the following sub-headings and were referred to the various sub-committees for report at the next general meeting of the committee:—

Jobber credit information, obsolescence, manufacturer and jobber, co-operative delivery, store and shop layouts and operation of mechanical departments, education of counter men, new fields for jobber distribution, distribution for manufacturer members through jobber members and follow up on warehousing code of ethics.

NEWARK CHAPTER A. S. S. T. HOLDS DINNER MEETING

Newark, N. J., Feb. 28.—Newark Chapter of the American Society for Steel Treating, which has just received its charter, had a dinner meeting at Staubwasser's in Green Street, at which an address was delivered by William H. Eisenman, national secretary of the society. Although the chapter bears the name of Newark, it was pointed out by John H. Johnson of the Firth-Sterling Steel Company of New York, secretary-treasurer, that its territory is the whole state.

HEMPY-COOPER MFG. CO. FOREIGN SHIPMENTS GAIN

Kansas City, Feb. 28. — The Hempy-Cooper Manufacturing Company, maker of automotive rebabbiting appliances, will celebrate its tenth anniversary on March 10. The company in 1928 shipped $82,770 in machinery to points in Europe, the company's products being in large demand in Russia. The company's factory now is working at full capacity, with orders enough on hand to keep the factory busy for several months.

SPARKS

(Continued from page 2)

Fraser Hunt, sales manager of the French Goodrich Company. One of the newest inventions, which combine light rays and electric current, was employed in creating the mystery.

A cleverly concealed electric motor supplied the power that propelled the tire. A new cell, the Salenium cell, which is not a conductor without the action of infrared rays, was arranged so that the red rays controlled the current that operated the motor. The rays were not visible to the eye, but by holding up the hand in a certain position the rays were interrupted, the current broken and the tire stopped. When the hand was removed the circuit was again complete and the tire rolled on. This stunt created wide interest and was featured as a cartoon in one of the leading Parisian papers.

CALENDAR OF COMING EVENTS

FEBRUARY

22-Mar. 3—**Copenhagen, Denmark.** Automobile exhibition of passenger cars.
23-Mar. 2—**San Francisco, Cal.** Automobile Salon at Palace Hotel.
25-Mar. 2—**Indianapolis, Ind.** Automobile Trade Association, annual automobile show.
25-Mar. 2—**Springfield, Mass.** Automobile show.
26-28—**Spartanburg, S. C.** Automobile show.
26-Mar. 2—**Evansville, Ind.** Eighteenth Annual Automobile Show.
26-Mar. 2—**South Bend, Ind.** Automobile Trades Association, automobile show.
27-Mar. 2—**Sioux City, Ia.** Automobile show.
28-Mar. 2—**New Castle, Pa.** Automobile show in Scottish Rite Cathedral.
28-Mar. 2—**Wichita Falls, Tex.** Automobile show in Swarts-Wood Building.

MARCH

1-15—**Daytona, Fla.** Automobile races.
2- 9—**Boston, Mass.** Automobile show.
2- 9—**Charlotte, N. C.** Automobile Display Week.
2-10—**Los Angeles, Cal.** Sixteenth Annual Automobile Show.
3-13—**Leipzig, Germany.** Automobile fair.
4- 6—**Montevideo, Minn.** Automobile show.
5-10—**Springfield, Ill.** Automobile Dealers' Association, Eleventh Annual Automobile Show.
6- 9—**Oswego, N. Y.** Automobile show.
9-16—**Fort Worth, Tex.** Automobile show.
9-16—**Montclair, N. J.** Show Week; individual show room displays.
9-17—**Copenhagen, Denmark.** Trucks, motorcycles, etc., shows at Forum.
13-16—**Monmouth, Ill.** Automobile show.
15-21—**Geneva, Switzerland.** Automobile show.
16-23—**Quebec, Canada.** Automobile show at Drill Hall.
17-23—**San Diego, Cal.** Automobile show.
20-23—**Verona, N. J.** Automobile show.
20-23—**Ogdensburg, N. Y.** Automobile show.

APRIL

3- 5—**Cincinnati, O.** Marketing Executives' Conference.
6-24—**Detroit, Mich.** Second Annual All-American Aircraft Show at Convention Hall.
17-19—**Baltimore, Md.** National Foreign Trade Council meeting.
22-29—**Goldsboro, N. C.** Automobile show.

MAY

1- 3—**Detroit, Mich.** American Society of Mechanical Engineers' Convention.
2-11—**Melbourne, Australia.** Automobile show.
13-15—**Chicago, Ill.** National Highway Traffic Association, annual convention.

JUNE

25-28—**Saranac Lake, N. Y.** Society of Automotive Engineers' Summer Meeting.

JULY

16-27—**London, England.** Olympia International Aircraft Show.

DEALER DOINGS

STEWART NAMES WILSON FOR KANSAS CITY AREA

Kansas City, Feb. 28.—The Stewart Motor Corporation, Buffalo, N. Y., manufacturer of the Stewart line of trucks, is planning to enter the Kansas City territory again after being out of this territory since 1921.

J. E. Gillespie, assistant to the president of the corporation, was in Kansas City for the automobile show with a display of Stewart trucks. He announced the appointment of R. W. Wilson as district sales manager for the Southwest, with Kansas City as headquarters. He also stated that several dealers in Missouri and Kansas had been named, and that negotiations for a distributor here were under way, with several applications pending. Mr. Gillespie made a check-up of the Stewart trucks sold here eight and ten years ago, and found most of them still in service.

DALEY NEW HEAD OF BOSTON OVERLAND GROUP

Boston, Feb. 28.—George A. Daley Jr., of Quincy, Mass., has been elected president of the Willys-Overland Metropolitan Dealers' Association, succeeding Frank A. McNulty, who recently resigned to join De Soto as factory representative. Mr. Daley is sales manager of the Hancock Square Motor Company at Quincy.

THOMAS J. HAY, INC., ORGANIZES DEALERS

Chicago, Feb. 28. — Thomas J. Hay, Inc., appointed Willys-Knight distributor for the Chicago district during the recent automobile show, has completed a dealer organization which includes former representatives of the Chandler and Willys products. The Hay Company for many years distributed Chandler cars in this area.

F. M. PAULL, INC., DODGE DISTRIBUTOR IN DUBUQUE

Dubuque, Ia., Feb. 28.—Frederick M. Paull, Inc., opened here the first of the year as Dodge distributor in five counties in Iowa, three in Wisconsin and one in Illinois. The company has fourteen associate dealers. The new location at 7th and Iowa Streets has three floors and 30,000 square feet of floor space.

MAGRANIS GETS FRANCHISE FOR HUDSON AND ESSEX

Northampton, Mass., Feb. 28.—Frank Magranis, proprietor of Magranis Motor Sales of Northampton, has taken the dealership of Hudson-Essex cars in this territory. Until recently he has handled Packard and another line of motor cars, and in the future he will handle Packard and Hudson-Essex. He was formerly in the motor car business in Springfield.

COLUMBUS DEALERS SELECT CUMMINGS SECRETARY-CHIEF

Columbus, O., Feb. 28.—J. H. Cummings has been appointed secretary-manager of the Columbus Automobile Dealers' Company for this year, according to a recent announcement. Headquarters of the dealers' organization are located at 407 Majestic Building.

MANLOVE HEADS SALES WITH HANDY MOTOR CO.

Kansas City, Feb. 28.—C. G. Manlove has been named sales manager of the Handy Motor Company, Ford dealer, Mr. Manlove for the last eight and one-half years was connected with the R. P. Rice Motor Company—six years as a Ford salesman and the last two and one-half years selling Chryslers.

NORRIS MOTOR COMPANY APPOINTS SALES MANAGER

Kansas City, Feb. 28.—The Norris Motor Company, Durant distributor for Kansas City and territory, announces the appointment of Forrest Brelsford as sales manager of its new car division and A. Despain as manager of its used car division. Mr. Brelsford was with the Bird-Sykes-Bunker Company, former Graham-Paige distributor here.

MAPLEWOOD HUDSON-ESSEX APPOINTED NEW DEALER

St. Louis, Mo., Feb. 28.—S. E. Hanes, general sales manager of the Hudson-Franpton Motor Car Company, has announced the appointment of the Maplewood Hudson-Essex Company, with headquarters at 7195 Manchester Ave., Maplewood, Mo., to represent the Hudson and Essex line of motor cars in that territory. J. E. Hilton, who has been in the automobile business for the past ten years, is the president of the company.

HALLENBERG-WAGNER CO. NOW IN NEW QUARTERS

St. Louis, Mo., Feb. 28.—The Hallenberg-Wagner Motor Company, Ford dealer, has moved into a new one-story building at 5640 Gravois Ave. The new building was built especially for the company. O. T. Hallenberg is president of the company and Edward P. Wagner, treasurer. The company has been an authorized Ford dealer for the past five years.

Kansas City, Feb. 28.—A. L. Ellwood, president of Ellwood Motors, Buick dealer, has gone to Rochester, Minn., where he will spend about two weeks at the Mayo Clinic.

Even the Employees Read Mr. Nauman's copy of Automotive Daily News

WYOMING AVENUE AT MULBERRY STREET
SCRANTON

CONRAD MOTOR CAR COMPANY
DODGE BROTHERS MOTOR CARS
GRAHAM BROTHERS TRUCKS

SCRANTON
CARBONDALE
HONESDALE
STROUDSBURG
MONTROSE

SCRANTON, PA

February 16, 1929

Automotive Daily News
New York City, N. Y.

Attention: Mr. H. A. Tarantous

Gentlemen:

Having been a subscriber of Automotive Daily News several years we feel qualified to offer you an opinion which we think would be representative of any automobile dealer that has taken advantage of your excellent publication.

At first sight of the Daily News we were convinced of its value and its usefulness thru the flood of current automobile news that is spread over its columns, and this conviction has been staunchly upheld, as our various employes read your news columns from day to day.

The items in your columns are always of utmost interest and enable us to talk intelligently regarding bigger automobile projects and while we feel we are just as busy as the next one, we always find time to look thru the Automotive Daily News.

Sincerely yours,

CONRAD MOTOR CAR COMPANY

Wilbur Nauman

WN/H

Advertising Manager

The influence Automotive Daily News exerts goes far beyond its subscribers

Automotive Daily News

H. A. TARANTOUS, *Bus. Mgr.* GRAYBAR BUILDING, NEW YORK CITY

Willard R. Cotton, Western Manager, 333 No. Michigan Ave., Chicago, Ill.
DETROIT OFFICE, Geo. M. Slocum, Mgr., General Motor Building, Detroit, Mich.
J. Edward Schipper, Eastern Manager, Graybar Building, New York
BOSTON OFFICE, Metz B. Hayes, Mgr., Little Building, Boston, Mass.
PACIFIC COAST, Blanchard, Nichols & Coleman, Am. Nat. Bank Building, San Francisco, Cal.

BUILDING PERMITS DROP 11% FROM JANUARY, 1928; 5% LESS THAN DECEMBER

New York, Feb. 28.—Building permits issued in 576 cities and towns for the month of January, according to official reports made to S. W. Straus & Co., showed a loss of 11 per cent. from January, 1928, and a 5 per cent. loss from December, 1928. The total for the first month of this year in 576 places was $239,074,441, compared with $266,293,500 in January last year and $251,991,579 in December last.

The January decline of 11 per cent. for the whole country appears to be largely in the smaller cities and towns. This is indicated by the reports from the twenty-five leading cities, which showed a gain of 5 per cent. over January, 1928; a gain of 9 per cent. over January, 1927, and a gain of 9 per cent. over December, 1928. Among the twenty-five leading cities, fifteen reported substantial gains over January last year.

The total for the twenty-five leading places in January was $165,443,243, compared with $157,244,920. The most surprising feature of the report from the leading cities was the change in the positions of Chicago and Philadelphia, the latter taking, for the first time, the place of second city in the country. Heretofore, Chicago has always held second position, following New York, with a wide margin over Philadelphia and Detroit.

During this January, Detroit, which held third position for the year 1928, dropped to fifth place, while Los Angeles, which held fifth place for 1928, rose to fourth place, following Chicago. The shifting of positions between Chicago and Philadelphia was due not only to a loss of 51 per cent. in Chicago from January, 1928, but also to a gain of 282 per cent. in Philadelphia from January last year.

GRAHAM-PAIGE DEALER

Lawrenceburg, Ky., Feb. 28.—The Griggs Motor Company of this city has taken the franchise for the Graham-Paige motor cars.

AINSWORTH MFG.-WILL OFFER 66,667 SHARES OF COMMON STOCK SHORTLY

Chicago, Feb 28.—Offering will be made shortly by Lage & Co., and Howe, Snow & Co., Inc., of 66,667 shares of common stock of the Ainsworth Manufacturing Corporation, which is being organized under the laws of Michigan to acquire the Ainsworth Manufacturing Company.

The company, one of the two largest of its kind in the world, manufactures windshields, garnish moldings, rolled shapes, foot rails, stampings and machined products for the automotive industry and includes among its principal customers Dodge Brothers, Inc., Ford Motors Company, Chrysler Corporation, Hupp Motor Car Corporation, Reo Motor Car Company, Studebaker Corporation and many nationally known body manufacturers. It occupies its own plant near the central business section of Detroit and employs about 600 employees.

The statement for the year 1928 shows earnings of $480,273, or $4.13 per share of the 116,149 shares presently to be outstanding. Business for the current year is running substantially ahead of the same period of 1928. The corporation will have no funded debt or preferred stock.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

THIS TABLE, BROUGHT UP TO DATE, RUNS EVERY FRIDAY IN THE AUTOMOTIVE DAILY NEWS

DECEMBER, 1928, NEW COMMERCIAL CAR REGISTRATIONS

Figures in this table are from R. L. Polk & Co. of Detroit with the exception of Illinois, which are supplied by the Robinson Advertising Service of Springfield, Ill., and New Jersey, which are furnished by the New Jersey Motor List Company, New Car Division, Trenton, N. J. Readers desiring county, city or town lists or lists of owners in any given section may obtain these by addressing any of these three companies.

States	Autocar	Brockway	Chevrolet	Diamond-T	Fargo	Federal	Ford	G. M. C.	Graham	Indiana	International	Mack	Pierce-Arrow	Relay	Reo	Republic	Rugby	Ruggles	Sterling	Stewart	Studebaker	Whippet	White	Willys-Knight	Yellow	Miscellaneous	Totals	States
Alabama			131			6	121	11	21		36	3			3							1				2	335	Ala.
Arizona			8				38	6	21		12		6	4	2		1				2		2				102	Ariz.
Arkansas			16			1	16	2	1		6				1												43	Ark.
California	6		31	2	3	12	722	63	165		24	19	1		78	1	8		19	4	11	3	21	1		56	1250	Cal.
Colorado			10				26	6	9		6				3							1				1	62	Col.
Connecticut	4	2	25	3	3	2	106	26	46		12	19	3	1	27		1			4	4	6	9			6	309	Conn.
Delaware			4				33	3	4		7		1		1		1					2	2				58	Del.
Florida			56		1	1	171	5	14	5	9	5			4								3	1			275	Fla.
Georgia			27				36	1	5		1											2	6				78	Ga.
Idaho			8				23	3	3		2				1							1	2				43	Idaho
Illinois	2		43	44	2	5	350	19	56	1	58	17			18				2	2		5	29			26	679	Ill.
Indiana	1		152	3	2	2	306	29	42	18	59			1	25		2			7	1	5	1	2		7	665	Ind.
Iowa			43	1	4	5	256	27	58	2	109				23		4			1			3	3		3	542	Iowa
Kansas			15	1			35	2	7		5				5												70	Kan.
Kentucky			59	3	3	1	122	16	27	1	29	1		4	13						4		6			6	295	Ky.
Louisiana			10			1	126	7	12		20	2			6												184	La.
Maine			5				13	1	1		2	1			2		1				2						28	Maine
Maryland	8		27	7		5	147	18	17	1	15	28		1	12	1			2	1	2	3	15	1		9	320	Md.
Mass.	14	6	24	3	1	4	314	46	52		36	39	2		40				2	4	3	1	14			4	609	Mass.
Michigan	7	2	138	7	18	26	889	65	95		74	16	1		76	3	2	1		1	8	8	3	5	2	39	1486	Mich.
Minnesota			42			4	184	8	15		33	2			9		2				2	1	4			1	307	Minn.
Mississippi			3				52		5		18											3					81	Miss
Missouri	1		37	3	2	1	174	28	33	1	34				13		1				1	4	3			4	340	Mo.
Montana			25				9	2	7		12				1							1					57	Mont.
Nebraska			55				74	11	13	3	40	1			4												201	Neb.
Nevada							1		2																		3	Nev.
New Hamp.			5				14	3			3	2			2						1	1					31	N. H.
New Jersey	24	12	93	10		15	361	71	124		42	66	6	2	80				13	8			34			40	1001	N. J.
New Mex.			33				17	1	9	1	8						1					1					71	N. M.
New York	18	67	88	28	8	14	476	68	144	1	58	58	5	5	53	2	3		8	21	5	5	28	3		100	1266	N. Y.
North Car.	1		77		1	1	126	5	20	1	5				4					3	1	5	3			5	258	N. C.
North Dak.			40				11	4	4		24				2		3									1	89	N. D.
Ohio	10	1	379	23	16	19	724	88	155	24	154	31	2	5	69	2	8		2	5	9	25	45	13		75	1884	Ohio
Oklahoma			50	3	3	3	370	16	76		58	10		1	6						4	21	4			3	628	Okla.
Oregon			2		1		38	5	9		6				1							1	6			5	74	Ore.
Penn.	57	44	207	25	15	21	789	123	218	2	145	63	2	16	94	7	10		21	25	17	18	48	4		68	2039	Penn.
Rhode Isl.		1	8	1	3	3	43	11	17		5	2			11					2	1		1	1			110	R. I.
S. Carolina			32			1	60		7		2	1			1							2					106	S. C.
S. Dakota			15				25	4	4		11				1		2					2					64	S. D.
Tennessee			11		1	1	30	4	12		3				2	1					2						67	Tenn.
Texas	9		167		2	2	439	33	83	4	81	25			35	1	4			2	4	4	7	1		5	908	Tex.
Utah			3				21	4	6		2				1		1										38	Utah
Vermont							19	4	7						1						2						33	Vt.
Virginia	1	1	67	1	2	3	241	24	35	2	24	6		1	6	7				1	1	2	8			7	440	Va.
Washington			8			2	56	6	8		8	3		1	3		3						3	1		9	111	Wash.
West Va.			34	2	1	1	119	12	39	4	32	1		1	13		1	1		4	2		2	1		4	274	W. Va.
Wisconsin			46	6	7	4	253	15	26		23	4			12		2		1	1	4	2				10	416	Wis.
Wyoming			11				18	5	13		15				1		1										64	Wyo.
Totals	163	136	2370	176	99	166	8594	911	1747	71	1368	425	29	43	765	25	62	2	70	96	93	136	312	37	2	496	18394	Totals

THIS TABLE, BROUGHT UP TO DATE, RUNS EVERY FRIDAY IN THE AUTOMOTIVE DAILY NEWS

JANUARY, 1929, NEW COMMERCIAL CAR REGISTRATIONS

Figures in this table are from R. L. Polk & Co. of Detroit, with the exception of Illinois, which are supplied by the Robinson Advertising Service of Springfield, Ill., and New Jersey, which are furnished by the New Jersey Motor List Company, New Car Division, Trenton, N. J. Readers desiring county, city or town lists or lists of owners in any given section may obtain these by addressing any of these three companies.

States	Autocar	Brockway	Chevrolet	Diamond-T	Dodge	Fargo	Federal	Ford	G. M. C.	Indiana	International	Mack	Pierce-Arrow	Relay	Reo	Republic	Rugby	Ruggles	Sterling	Stewart	Studebaker	Whippet	White	Willys-Knight	Yellow	Miscellaneous	Totals	States
Delaware	1		14		5			35	4		4	1			1		1						2				68	Del.
Illinois	8		394	146	200	20	8	974	122	24	313	41	1	5	72	4			7	4		11	32		4	211	2601	Ill.
Montana			55		21	1	2	142	6		29	1	1		8	1	5					2	3	1			278	Mont.
New Mexico			31		20		3	36	3	2	15				4							1	2			1	118	N. M.
N. Carolina	1		204		68	1	4	375	42	5	26	3			11	1	3			1	1	3	3		1	22	775	N. C.
N. Dakota			63		8		1	79	9		51				3		2							1			217	N. D.
S. Carolina			47	2	14	1	1	105	9	1	56	4			7		2										249	S. C.
Utah			23		19			79	4		14	6			5		1				2	1	1			1	156	Utah
Virginia	2		86	1	45	1	10	274	17	6	37	3			13	10				1	1	3	12			1	523	Va.
West Va.			45	1	15	3	1	121	11		26				11		1				1	2	2			3	243	W. Va.
Wisconsin	1		85	8	38	6	8	430	23		27	3	1		18		2		10	5	3	3	1	4		16	692	Wis.
Totals	13		1047	158	453	33	38	2650	250	38	598	62	3	5	153	16	17		17	11	8	26	58	6	5	255	5920	Totals

Financial News of the Automotive Industry

The A. D. N. Analyst Looks Them Over

NOTICE

IN this department will appear daily an analysis of one or more companies in, or closely allied to, the automotive industry, covering the past history, present condition and future prospects of the companies so analyzed. It will be the purpose of the A. D. N. Analyst to deal with the smaller and less known manufacturing concerns, as well as with those more prominent, thereby giving analyses not to be found elsewhere. Readers who preserve their issues of Automotive Daily News will, through this department, build up a valuable fund of information about the financial standing of companies in the industry.

THE BULLARD COMPANY

THIS manufacturing concern was known as the Bullard Machine Tool Company until January of this year. It is fifty-three years old, having been established at Bridgeport, Conn., in 1880, and incorporated under the laws of Connecticut in September, 1894. The Bullard Company includes among its products turning and facing machines used in the manufacture of railroad equipment, automobile trucks and passenger cars, electrical equipment, etc.

Its plants at Bridgeport, which produce these machines under the well-known trade names of Mult-Au-Matics and Contin-U-Matics, comprise one main factory building 180 by 700 feet, and four smaller auxiliary plants, in addition to office buildings, warehouses, etc.

The authorized capital of Bullard Company was increased by the vote of stockholders from 100,000 shares of no par common stock, to 300,000 shares, three new shares being offered for one old. There is no funded debt or preferred stock, and the outstanding common totals 276,000 shares. At the annual meeting of the company, on the third Wednesday of this month, the rate of dividend payments on the new stock will be determined. The company is in good financial condition, production schedules are on the increase, and the expectation is that the new stock will be put on a basis of $1.60 per annum, compared to payments of $1.50 on the old stock. Extras were also paid on the former stock through all of 1927 and 1928. The quarterly extras were 50 cents a share in 1927, and for the first three quarters of 1928, but $1 was paid in the last quarter of 1928. Soon after the capital stock was increased, 80,000 shares of the new common was offered to the public at the market. This issue, which did not represent new financing in any way, was sold through White, Weld & Co., and McEldowney & Co., Inc.

Earnings of Bullard dropped off in 1927, but the "comeback" in 1928 not only sent the net income soaring above that of the previous year but lifted it to heights not reached in any previous year. In fact, the earnings in the first ten months were greater than for any entire previous year. Net income for that period amounted to $1,175,897, or $4.26 per share on the outstanding 276,000 shares. This compared to $1.38 a share in 1927 and $3.40 a share in 1926 on the same number of shares.

After such a showing it is hardly necessary to point out that the plants have been operating at capacity for the past year, and that orders on hand are sufficient to carry these top operations well into this year, with new orders pouring in all the time. It became evident early in 1928 that the year was going to be a record one for the company. By the time the end of June had been reached more business had been done than in the entire previous year, and production schedules were mounting. And by the time the end of the year was reached it was apparent that the rush would carry over well into 1929 without consideration for new orders that would come in.

Much interest was shown recently in the fact that tests of the new cutting metal, known as widia, had been made in the Bullard plant. This interesting new metal was reported to have proved itself capable of cutting just about twice as fast as any previously developed metal. While Bullard made the tests with a view of testing the practicability of installing higher-speed machinery, it must be remembered that the Krupp interests in Germany have a monopoly on widia, and are selling it at the neat little figure of $500 per pound. Not only that, but they are forcing their licensees in this country, including General Electric, to sell it at the same figure, although over here it goes under the name carboloy.

A glance at the 1928 earning statement takes away any question as to why Bullard stock advanced nearly 200 per cent. on the New York Curb last year in net gain, and ranged from a low of 43 early in the year to 127 near the close. It opened the year at 45 and closed at 121, for a net gain of seventy-six points. And now the new stock is selling at around 48, which would mean 144 for the old stock. While the final earnings for 1928 have not been announced, they seem certain to be more than $5 per share.

The book value of the stock, on the basis of the balance sheet for October 31, 1928, was $45.30 on the old stock, compared to $37.75 at the end of 1927. This equals $15.10 on the new stock. The financial position was strong, with current assets, including $524,934 cash and call loans, more than five times the current liabilities of $490,118. The funded debt was retired in May, 1928. The company carries a depreciation fund of more than $2,000,000.

Here is the record of the company's stock since its listing on the New York Curb market in 1926:—

	High.	Low.
1926.....	35½	28¼
1927.....	49⅝	34
1928..... 127		43
1929.....	51¾	45 (new)

Officers of the company are: E. P. Bullard, Jr., president; S. H. Bullard, vice-president; A. H. Bullard, secretary and treasurer; A. E. North, assistant secretary and assistant treasurer. Directors are: E. P. Bullard, Jr.; S. H. Bullard, A. H. Bullard, D. B. H. Bullard, J. W. C. Bullard, H. C. Bullard and R. E. MacEldowny.

EVANS AUTO LOADING NET $760,050 IN 1928

New York, Feb. 28.—The report of Evans Auto Loading Company, Inc., and Lumber Products Corporation for the year ended December 31, 1928, shows a net profit of $760,050 after interest, depreciation, Federal taxes, etc., equivalent to $3.80 a share (par $5) an 200,000 shares outstanding at the end of the year.

This compares with a net profit in 1927 of $640,850, which, computed on the above share basis, is equal to $3.20 a share.

CONTINENTAL STOCK IS BEING SUBSCRIBED

Detroit, Feb. 28.—That a majority of Continental Motors Corporation stockholders will exercise rights to purchase new stock to provide for retirement of bonds, is belief of R. W. Judson, president. Mr. Judson said: "From the manner in which subscriptions for new stock are coming in I am firmly convinced that the entire issue will be subscribed before the expiration of rights on March 5.

"By retirement of bonds, the company is relieved of the commitment of $350,000 annually in the sinking fund requirements. Further saving of $150,000 anually is represented by the difference between present dividend rate on common to be issued and interest and other charges of the bond issue retired.

Dividends

Chicago, Feb. 28.—The Borg-Warner Corporation declared the regular quarterly dividend of $1 in cash and 2 per cent. in common stock on common, and $1.75 on preferred, all payable April 1 to stock of record March 20.

New York, Feb. 28.—The Worthington Pump and Machinery Corporation declared a dividend of $3.50 on account of arrears on the preferred A and a dividend of $3 on account of arrears on preferred B. both payable March 20 to stock of record March 9.

Toledo, Feb. 28.—The Electric Auto-Lite Company declared an extra dividend of 50 cents on common and regular quarterly dividends of $1 on common and $1.75 on the preferred, all payable April 1 to stock of record March 15.

New York, Feb. 28.—The Westinghouse Electric and Manufacturing Company declared regular quarterly dividends of $1 each on common and preferred stocks. Common dividend is payable April 30 to stock of record March 11 and preferred April 15 to stock of record March 11.

Rubber Prices

New York, Feb. 28.—Bull traders in the local rubber markets who had succeeded in boosting prices into new post-restricted high levels during the trading Tuesday received a setback yesterday when the bear element taking advantage of slight London declines supplied sufficient offerings to hammer the list down for a net loss of 50 to 60 points on the local Exchange.

RUBBER EXCHANGE OF NEW YORK

	High	Low	Closing Feb. 27	Closing Feb. 26
March	26.50	26.10	26.10a26.20	26.60
April			*26.40	26.90
May	27.26	26.50	†26.60	27.10
June			*26.70	27.20
July	27.40	26.60	†26.70a26.80	27.30
August	26.90	26.70	*26.80	27.40
September	27.60	26.80	†26.90	27.50
October	27.70	27.00	*26.90	27.50
November	27.50	27.30	*27.00	27.60
December	27.80	27.00	†27.60	27.60
1930—				
January			*27.10	27.70

Spot, *26.20. Sales, 1,339 lots.

*Nominal, †Trading.

OUTSIDE CLOSING PRICES

(Per pound, delivered, New York.)

	Bid.	Asked.
PLANTATION—		
Ribbed Smoked Sheets—		
Spot	26¼	26½
February	26¼	26½
March	26¼	26½
April-June	26⅝	26⅞
July-September	27	27⅛
October-December	27⅛	27⅝
Spot—		
First latex crepe	26¾	27
Clean thin brown crepe	24	24¼
Specky brown crepe	23⅝	24
Rolled brown crepe	18⅝	20
No. 2 amber	24¼	24½
No. 3 amber	24	24¼
No. 4 amber	23⅝	24
PARAS—		
Up-river, fine, spot	27	27¼
do, coarse	17½	17⅝
Acera, fine, spot	27⅞	28
Caucho Ball—Upper	17	17⅛
*Brazil, wshd., dried, fine	31½	32
CENTRALS—		
*Esmeraldas	15½	16
*Central scrap	15½	16
Guayule, washed, dried	..	20
BALATA—		
*Block Ciudad	50	..
*Surinam sheet	62	..
*Manaos block	50	..
Peruvian block	27	28

SCRAP RUBBER

(Dealers' buying prices, f. o. b., N. Y.)

Boots and shoes, black, ton.	$20.00a21.00
Arctics, cwt	.50a .60
Inner tubes, mixed, cwt.	4.00a 4.12½
Inner tubes, red, cwt	4.75a 4.87½
Tires, standard, mixed, ton.	17.00a18.00
Inner tubes, No. 1, cwt.	6.25a 6.37½
Inner tubes, No. 2, cwt.	3.75a 3.87½
Mixed hose, soft, cwt.	.50a .55
Hose, air brake, ton	27.50a30.00

*Nominal.

RANGE OF AUTOMOTIVE STOCKS

NEW YORK STOCK EXCHANGE

Previous High	Previous Low	Div.		Sales	High	Low	Close	Net Change
74½	48	....	Advance Rumely	14,000	71⅝	68¼	69½	— 2
73⅝	58½	....	do pf	800	70⅝	69	69	+ ¼
11¼	9	....	Ajax Rubber	2,600	10	9¼	9¼	+ ⅛
194	167½	7	Allis-Chalmers	1,300	186	183	183	— 2
48	40½	....	Am. Bosch Magneto	4,000	46½	45⅝	46¼	— ⅛
8⅜	6½	....	Am.-La France	100	7¼	7¼	7¼	— ¼
63¼	48⅝	....	Briggs Mfg. Co.	45,400	52	48½	51	+ 1½
73⅜	59½	3	Brockway Motor	1,000	62⅝	61½	62⅝	+ ⅝
23	20	....	Chandler Motor	100	21½	21½	21½	— ½
56¼	51¾	3.50	Chicago Pneu. Tool pf.	400	51¾	51½	51½	— ¼
135	98⅝	3	Chrysler Corp.	34,500	104½	101½	104¼	+ 1⅝
28⅝	9⅛	.80	Continental Motors	7,800	23⅜	22⅞	23⅛	....
76⅝	61	3	Eaton Axle & Spring	1,400	70	69¼	69½	— 1
170	134⅛	4.50	Electric Auto-Lite	8,600	163¾	162¼	162⅝	— ⅝
92⅛	82⅜	5	Electric Stor. Battery	900	86⅞	84¾	86⅝	+ ⅝
13	4	....	Emerson B	100	9½	9¼	9¼	+ ⅛
22⅜	18	.80	Federal Motors	700	19¾	19⅝	19⅝	+ ⅛
201½	155⅝	....	Fisk Rubber	19,700	18⅝	16¼	17⅝	+ 1⅛
72⅝	60⅛	....	do 1st pf.	500	65	63	65	+ 4
33⅜	24	....	Gabriel Snubber A	4,300	31⅞	30½	31½	+ 2⅛
25	15	....	Gardner Motor	1,200	17	16⅜	17	— ⅛
86	78	3	General Motors	116,400	84½	80¼	83⅝	+ 3¼
109½	109¼	6	do 6s pf.	100	109⅜	109⅜	109⅜	+ ⅛
126⅛	124⅜	7	do 7s pf.	800	124⅝	124⅜	124⅜	— ⅜
44⅛	36⅜	1.75	Glidden Co.	3,300	42½	41½	42	— ¼
105⅜	87⅛	4	Goodrich Co.	10,800	97⅝	95	95½	— ½
140	112	....	Goodyear T. & R.	21,900	122½	117	121⅛	+ 3⅛
104	102	7	do pf	200	104	104	104	....
54	44¼	....	Graham-Paige Motor	2,300	48⅛	46⅝	48	+ 1⅜
93	83	5	Hudson Motor Car	12,000	88⅛	85⅝	88	+ 1⅛
82	67⅝	2	Hupp Motor Car	15,900	74⅞	73⅛	74⅞	+ 1⅝
14¼	10⅝	....	Intercon. Rubber	300	12⅝	12⅝	12⅝	— ⅛
115	92⅝	2.50	International Harvester	3,500	107⅞	105⅜	107	— 1
242⅝	180½	3	Johns-Manville	27,600	213½	203⅝	213	+ 8
16½	12	....	Jordan Motor Car	800	13¼	12⅝	12⅞	+ ⅛
24	18	....	Kelly-Springfield	8,900	20⅝	18¼	20	+ 1¼
61⅝	47⅝	2	Kelsey-Hayes Wheel	4,600	61⅝	60¼	60¼	— 1
25	19⅛	....	Lee Rubber & Tire	3,500	22¼	21	22	+ 1⅛
114⅝	104	6	Mack Trucks	8,200	109⅝	107⅝	108⅝	+ ⅜
84	66¾	4	Marmon Motor	5,800	79⅝	75⅝	78⅝	+ 6⅞
79⅜	69⅝	3.75	Marlin Rockwell	2,100	74	69½	74	+ 3⅛
34⅛	25¼	....	Mengel	400	26⅞	25¾	26⅝	+ ⅜
28⅝	22½	....	Miller Rubber	600	24½	23⅝	24⅜	+ 1⅝
8	6¼	....	Moon Motors	1,900	6¼	6¼	6¼	....
25⅝	19	....	Moto Meter A	300	20	20	20	....
194⅝	165	2	Motor Products	600	193	190	190½	— 2½
47⅜	42½	2	Motor Wheel Corp.	700	44⅝	44⅜	44⅝	+ ⅛
81⅜	60	....	Mullins Mfg. Co.	700	65½	64	64⅞	+ 4⅛
77⅝	67	....	Murray Corp.	24,100	76⅞	71⅝	76⅛	+ 4⅛
118⅜	102⅛	6	Nash Motors	28,700	112	109⅛	112	+ 3
6⅞	5	....	Nerwalk T. & R.	1,000	5⅝	5⅝	5⅝	+ ⅛
10	7½	....	Omnibus Corp.	100	8⅛	8⅛	8⅛	+ ⅛
153	125⅛	3.50	Packard Motor Car	112,400	146⅝	137⅝	146⅛	+ 6⅛
22½	17⅛	....	Peerless Motor Car	300	19⅛	19⅝	19⅛	....
37⅜	28⅝	....	Pierce-Arrow	2,000	34⅛	33⅝	34⅛	+ ⅛
86⅝	72½	....	do pf	600	82	81	82	+ 1
31⅝	27⅞	1	Reo Motors	3,100	29	28⅝	28⅝	....
57	45	....	Spicer Mfg. Co.	15,100	58⅛	56⅝	57⅝	+ 1⅛
145	121⅛	6	Stewart-Warner Speed.	2,900	134⅝	131⅝	134	+ 2⅛
68⅝	52⅝	3	Stromberg Carburetor	200	61¼	61	61	— 1
98	77	5	Studebaker Co.	13,100	90	87⅝	90	+ 1½
83	73½	3	Timken Roller Bear	21,000	82⅝	76⅝	82⅜	+ 5⅛
44⅛	38⅝	2.50	Trico	500	40½	40	40⅝	+ ⅛
55⅛	42	....	U. S. Rubber	48,800	54½	52⅝	53⅝	+ 1
92½	77	....	do 1st pf.	500	85⅝	84½	84½	+ 1¼
50⅝	45⅛	2	Westinghouse A. B.	2,400	49⅝	49⅛	49⅛	— ⅝
52⅝	40⅝	1	White Motors	3,600	52	50⅛	51⅛	+ ⅛
35	28⅛	1.20	Willys-Overland	12,100	31⅝	30⅝	31⅛	....
103	99	7	do pf	100	100	100	100	— ⅝
65⅛	61⅝	4	Yale & Towne	1,200	65⅛	65	65	— ¼
43⅞	35⅛	....	Yellow Truck & Coach	23,200	40⅛	37⅝	39½	+ 1⅜

NEW YORK CURB MARKET

Sales.		High.	Low.	Close.	Net Ch'ge.
1200	Auburn Aut.	189	183	189	— 1
200	Bohn Alum.	113⅜	113⅜	113⅜	— ⅜
300	Bullard Co.	48	47⅞	48	— ⅛
200	Cat'p'lar T.	75	74⅛	75	+ ⅛
8500	Checker Cab	85⅞	83⅝	85⅛	....
21000	Cit. Serv.	117⅛	116⅜	117⅝	— ⅛
300	Cit. Serv. pf	97⅛	97⅛	97⅛	+ ⅛
700	D'hler D. C.	34⅛	34⅛	34⅛	— ⅛
16	Durant Mot.	16⅛	15⅞	15⅞	— ⅛
8500	Ev. Aut. Ld.	68	57⅛	68	+ 11⅛
100	Fedders	43½	43½	43⅝	+ ⅛
4200	Fiat	91⅛	91	91⅛	+ ⅛
50	Firestone	237	227	237	— 6
100	Fir'st.7%pf.	108½	108	108⅛	+ 1⅛
70	Ford Can.	675	664	669	+ 4
	Ford Ltd.	18¾	17¾	18⅛	— ⅛
100	Fr'klin Mfg.	33	32	33	+ ⅛
500	Hall Lamp.	25	25	25	+ ⅛
2000	Nt. Rb. Mch.	32½	31⅝	31⅝	— 1⅛
200	Par'nt Cab.	33½	31½	31⅝	— 1⅛
100	Pitt. Pl. Gl.	68	68	68	+ ⅝
1000	Raybestos	74	72⅝	73	+ 1¼
1400	Safe-T-Stat.	24¼	23	23⅞	+ ¼
200	Seiberling	55	55	55	+ 1⅛
400	Sparks Wth.	160	160	160	+ 1
1800	Stutz Mot.	23⅛	23	23⅛	+ ⅛
2100	Therm'd Co.	33	29⅛	31	+ 1⅝
200	Triplex	28¾	28¾	28¾	— ⅝
500	Wat'n. J.W.	8⅞	8	8¼	— ⅝
100	West Auto.	57⅞	57⅞	57⅞	....
7600	Wire Wheel	38	35⅛	36½	— 1
1500	Yl. Tx. N.Y.	24⅞	22⅝	22⅝	— 1⅞

CHICAGO

Sales		High	Low	Last
8000	Alid Mot	46¼	45	46
50	do pf	49	49	49
4200	Auburn	190	185⅜	190
3900	Bendix	107	105	106½
6300	Brg Wr.	135	131½	134⅝
50	do 7 pf.	102½	102½	102½
650	Chi Yl Cab.	33	32¼	33
550	Hudl H A.	49	48½	49
750	do B	48¾	47½	48¾
200	Modine	62¼	60	60
400	Mohawk Rub.	57¼	56½	57
450	Muncie	24	23½	24
450	do A	27	26⅝	27
150	Mskg M A	36½	30	30
100	Pines W F	197	197	197
250	Str Mot pf.	33	32½	33
150	Vn Skin	32⅞	31⅝	32⅞
100	Vsta Bty	14½	14½	14½
160	Wksh Mot	168	165	168
50	Wyn Pp pf.	41	41	41

CLEVELAND

70	Aetna Rub.	22	22	22
150	Fires 7 pf.	105	168½	168½
45	Glidden Pr pf.	104¾	104¾	104¾
176	India Tire	66	65	65
10	do pf.	85	85	85
197	Jaeger Mach.	36⅝	36⅝	36⅝
12	Mil Rub pf.	75	75	75
295	Mhwk Rub.	57	57	57
30	Packard El.	117	117	117
200	Selber Rub.	56	55½	56
220	P. H. Stearns	6	6	6
50	Ygan S. & T pf.	102½	102½	102½

DETROIT

300	Auto Fan.	12½	12⅜	12⅜
110	Both Alum	113½	113½	113½
100	Det Mot H.	8⅝	8⅝	8⅝
325	Fedl Mogl.	29½	29	29½
587	Gr Rap M.	14¼	14⅛	14⅛
1035	Hall Lamp.	25½	25⅜	25½
776	Hayes	51	50⅛	50⅛
2140	Hutto	33½	31	33
170	Lakey	32	32	32
1425	Muskegon	55	55	55
1420	do pf	33½	33¼	33½
2215	Mich Steel.	102	96	100
850	Packard	147	142½	147
250	Stearns	37¼	37¼	37½
155	Tim D Ax.	28	28	28
200	Univ Prod.	47	47	47
140	Wilcox A.	46¾	46¾	46¾
1759	do pf.	46¾	45	46

(The above tables show Wednesday's automotive stock movements, complete.

ELECTRIC AUTO-LITE NET $7,778,818 IN '28

Toledo, Feb. 28.—The Electric Auto-Lite Company reports for the year ended December 31, 1928, a consolidated net income of $7,778,818, after depreciation, interest, Federal taxes, etc., equivalent to $8.41 a share earned on 890,000 shares of no-par stock. This compares with $2,363,475, or $9.45 a share, on 250,000 shares in 1927.

Earnings of $1,078,550 after charges and preferred dividends, but before Federal taxes, are reported for January. The local plant is operating twenty-four hours a day on three shifts.

WISCONSIN AXLES

In road work, on long distance hauls, in bus service—Wisconsin Axles succeed because of their ability to withstand heavy loads, road shocks and gruelling speed. They are built for that purpose.

WISCONSIN PARTS CO. Oshkosh, Wis.

MAJOR SPECIFICATIONS AND MECHANICAL DETAILS OF

Make and Model	Capacity—tons	Chassis price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gearset	Location	No. Spds. for.	Rear Axle	Final Drive	Reduction in Low	Brakes, foot	Brakes, hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
Am. La France Chief	2-2½	2850	Own	6	3¾x5	33.7	F P	Zen	Vac	Rem	Own	C	4	Own	Wo	51.2	4	R	156	5600	32x6	32x6 D
**Am. La France W	3-4	3950	Own 2 R	4	4½x6	28.9	P&S	Zen	Vac	A B	Own	C	4	Own	D R	47.4	D	R	160	7200	S 36x5	S 36x5 D
Am. La France S	4-4½	5200	Own 5 R	4	4¾x6	36.2	P&S	Zen	Vac	A B	Own	C	4	Own	Wo	54.4	D	R	165	8900	S 36x6	S 36x6 D
Am. La France V	5	5500	Own 5 R	4	4¾x6	36.2	P&S	Zen	Vac	A B	Own	C	4	Own	Wo	54.4	D	R	165	9800	S 36x6	S 40x6 D
Am. La France Z	6½	5750	Own 5 R	4	4¾x6	36.2	P&S	Zen	Vac	A B	Own	C	4	Own	Wo	63.5	D	R	165	10000	S 36x7	S 40x7 D
Am. La France U	7½	6000	Own 5 R	4	4¾x6	36.2	P&S	Zen	Vac	A B	Own	C	4	Own	—	63.5	D	R	165	10500	S 36x7	S 40x8 D
Am. La France 14 R	5	6000	Own 14 R	4	4¾x6	36.2	P&S	Zen	Vac	A B	Own	C	4	Own	D R	34.3	D	R	226	9100	40x8	40x8 D
Am. La France 16 R	5	6500	Own 16 R	6	4½x6	105	P&S	Zen	Vac	A B	Own	C	4	Own	D R	32.8	4	R	226	10400	40x8	40x8 D
Autocar S D	1½	2700	Own	6	3¾x4½	33.8	Pb	Zen	Vac	L-N	Br-L 35	U	4	Own S A	Sp	27.9	4	R	150	3900	32x6	32x6
Autocar S D	2	3000	Own	6	3¾x4½	33.8	Pb	Zen	Vac	L-N	Br-L 35	U	4	Own S D	D R	33.9	4	R	150	4850	32x6	32x6 D
†Autocar H	3	3750	Own	4	4½x5½	32.4	C S	Str	Vac	A B	Own T	U	4	Own H	D R	47.8	R	R	114	5800	34x5 S	36x10 S
†Autocar S H	3	4000	Own	6	4⅛x4¾	40.8	Pb	Str	Vac	R B	Own T	U	4	Own H	D R	47.8	R	R	114	5800	34x5 S	36x10 S
Autocar T	3	5000	Own	6	4⅜x4¾	45.9	Pb	Str	Vac	R B	Own T	U	4	Own T	D R	40.7	R	R	187	7100	36x8	36x8 D
†Autocar H S	3½	4100	Own	4	4½x5½	32.4	Sp	Str	Vac	A B	Own T	U	4	Own J	D R	55.2	R	R	114	6900	34x6 S	36x12 S
†Autocar S H S	3½	4400	Own	6	4⅜x5½	45.9	Pb	Str	Vac	R B	Own T	U	4	Own J	D R	55.2	R	R	114	7000	34x6 S	36x12 S
Autocar T S	3½	5350	Own	6	4⅜x4¾	45.9	Pb	Str	Vac	R B	Own T	U	4	Own J	D R	46.5	R	R	187	7100	36x8	36x8 D
Autocar S C M	5	5000	Own	6	4½x4¾	48.6	Pb	Str	Vac	R B	Own B	C	4	Own M	D R	72.1	R	R	162	8600	34x7 S	36x14 S
Brockway Junior	1	1195	Wis C	4	3¾x5	22.5	Pb	Zen	Vac	Aut	Br-L 20	U	3	Col 36001	Sp	21.27	4W	Tr	130	3100	30x5	30x5
Brockway J F	1	1195	Wis F	6	3¼x4¼	25.4	Pb	Zen	Vac	Aut	Br-L 20	U	3	Col 36001	Sp	21.3	4W	Tr	137	3450	30x5	30x5
Brockway C J B F	1½	1475	Wis F	4	3¼x4¼	25.4	Pb	Zen	Vac	Aut	Br-L 20	U	3	Col 54030	Sp	21.3	4W	Tr	149	3650	32x6	32x6
Brockway E	1½	1765	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	L-N	Br-L 30	U	3	Col 55001	Sp	21.0	4W	Tr	139½	3650	32x6	32x6
Brockway E N	1½	1965	Wis N	6	3½x4¼	29.4	Pb	Zen	Vac	Aut	Br-L 35	U	4	Col 55001	Sp	31.3	4W	Tr	155¾	4400	32x6	32x6
Brockway S	2	2450	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	L-N	Br-L 35	U	4	Wis 4610	D R	38.79	R	Tr	150¼	5100	S 34x4	S 34x8
Brockway S Y	2	2950	Wis Y	6	3⅜x5	27.3	Pb	Zen	Vac	L-N	Br-L 35	U	4	Wis 4610	D R	35.3	4W	Tr	151¾	4950	32x6	34x7
Brockway K*	3	3300	Con K	4	4½x5¼	27.2	Pw	Zen	Vac	Eis	Br-L 35	C	4	Tim 65600 D	Wo	41.5	R	R	154½	5855	S 36x5	S 36x10
Brockway K R	3	3625	Con L	4	4½x5½	32.4	Pw	Zen	Vac	Eis	Br-L 55	C	4	Tim 65700 S	Wo	36.38	R	D	160¾	6290	S 36x5	S 36x10
Brockway K W	3	3950	Wis H	6	4 x5	38.2	Pb	Zen	Vac	L-N	Br-L 51	U	4	Wis 68300	D R	33.7	R	D	170	6920	34x7	D 34x7
Brockway R*	4	4200	Con L	4	4½x5½	32.4	Pw	Zen	Vac	Eis	Br-L 55	C	4	Tim 66600	Wo	46.8	R	R	164	7890	S 36x5	S 36x12
Brockway T	5-7	5200	Con B 7	4	5 x6	40.0	Pw	Zen	Vac	Eis	Br-L 60	C	4	Tim 68700	Wo	53.5	R	D	175	10065	S 36x6	S 40x14
Chevrolet	½	400	Own	6	3⅛x3¾	—	Pb	Car	P	Rem	Own	U	3	Own	Sp	13.87	4	R	107	1695	30x4.50	30x4.50
Chevrolet	1½	545	Own	6	3⅛x3¾	—	Pb	Car	P	Rem	Own	U	4	Own	Sp	33.47	4	R	131	2170	30x5	30x5
Commerce 20 Y	1	1600	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Col	Sp	25.5	4	—	142	3900	B 30x5	B 30x5
Commerce S 11 Y	1½	1900	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	29.2	4	—	162	4300	B 30x5	D B 30x5
Commerce 30 Z	1½	2900	Bud D S 6	6	3⅜x5	31.2	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	—	168	4700	B 34x5	D B 34x5
Commerce 40 Z	2	3240	Bud D S 6	6	3⅝x5	31.2	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	—	168	4900	B 36x6	D B 36x6
Commerce 50 Z	2½	4415	Bud B U S	6	4 x5⅛	38.4	Pw	Zen	Vac	Aut	Br-L	U	5	Tim	Wo	63.0	4	—	175	7000	S 36x5	S 36x10
Commerce 60 Z	3	4480	Bud B U S	6	4 x5⅛	38.4	Pw	Zen	Vac	Aut	Br-L	U	5	Tim	Wo	63.0	4	—	175	7100	S 36x5	S 36x12
Commerce 70 Z	3½	4250	Bud B A 6	6	4⅛x5⅛	40.8	Pw	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	R	—	175	8200	S 36x6	S 36x12
Commerce 80 Z	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pw	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	R	—	175	8400	S 36x6	S 36x14
Day Elder M	1	1345	Con 16-C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Rem	Ful DU-10	U	3	Col 35000	B	23.89	R	R	131	3100	30x5	30x5
Day Elder G-6	1½	2050	Con 16-C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Rem	Ful DU-10	U	3	Tim 5620	B	29.30	R	R	144	3900	30x5	32x6
Day Elder H	2	2500	Buda WTU	4	3¾x5⅛	22.5	Pb	Zen	Vac	Rem	Ful KU-10	U	4	Tim 63702 D	Wo	30.64	R	R	144	4400	S 34x4	S 34x7
Day Elder H B-6	2	2500	Con 16-C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Rem	Ful KU-10	U	4	Tim 5620	B	27.32	R	R	144	4400	32x6	34x7
Day Elder I	2½	3300	Buda KBU	4	4 x5¼	25.6	Pb	Zen	Vac	Rem	Ful GU-12	U	4	Tim 65600 D	Wo	44.40	R	R	150	5700	S 36x4	S 36x8
Day Elder J-6	3	3900	Buda DW6	6	3¾x5	33.7	Pb	Zen	Vac	Rem	Ful GU-12	U	4	Tim 65600 D	Wo	37.20	R	R	156	6500	36x6	36x6 D
Day Elder K	4	4475	Bud Y B U	4	4½x6	32.4	Pb	Zen	Vac	Eis	Ful R	C	4	Tim 66600 D	Wo	49.60	R	R	162	8500	S 36x5	S 36x12
Day Elder L	5-6	5050	Bud B B U	4	5 x6½	40.0	Pb	Zen	Vac	Eis	Ful H	C	4	Tim 67700 D	Wo	64.60	R	R	162	10000	S 36x6	S 40x7 D
Diamond T 151	1	1095	Con 18 E	6	3⅜x4	27.3	Pb	Zen	Gra	Aut	Cov	U	3	Col	Sp	—	4	D	132	3200	30x5	32x6 D
Diamond T 290	1½	1475	Her W X A	6	3⅜x4½	27.3	Pb	Zen	Gra	Aut	Cov	U	4	Col	Sp	—	4	D	156¼	4160	30x5	30x5 D
Diamond T 302	2	1650	Her W X B	6	3¾x4½	33.8	Pb	Zen	Gra	Aut	Cov	U	4	Tim	Sp	—	4	D	157¾	4600	32x6	32x6 D
Diamond T 550	2½	2195	Her W X C	6	4 x4½	38.4	Pb	Zen	Gra	Aut	Cov	U	4	Tim	Sp	—	4	D	165	5400	32x6	32x6 D
Dodge Bros.	½	665	Own	6	3⅜x3⅞	27.3	Pb	Stw	Vac	N E	Own	U	3	Own	Sp	15.2	4	D	120	2510	31x5.25 B	31x5.25 B
Dodge Bros.	¾	775	Own	6	3⅜x3⅞	27.3	Pb	Stw	Vac	N E	Own	U	3	Own	Sp	17.4	4	D	130	2920	30x5	30x5
Dodge Bros.	1	995	Own	6	3⅜x3⅞	27.3	Pb	Stw	Vac	N E	W-G	U	4	Own	Sp	23.8	4	D	140	2955	30x5	30x5
Dodge Bros.	1	1065	Own	6	3⅜x3⅞	27.3	Pb	Stw	Vac	N E	W-G	U	4	Own	Sp	23.8	4	D	150	3695	32x6	32x6
Dodge Bros.	1½	1345	Own	6	3⅜x3⅞	27.3	Pb	Stw	Vac	N E	Own	U	4	Own	Sp	36.8	4	D	165	3810	32x6	32x6
Dodge Bros.	1½	1415	Own	6	3⅜x3⅞	27.3	Pb	Stw	Vac	N E	Own	U	4	Own	Sp	36.8	4	D	114	3725	32x6	34x7
Dodge Bros.	2	1445	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	N E	Own	U	4	Own	Sp	41.4	4	D	165	4045	32x6	34x7
Dodge Bros.	16 Pas	1890	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	N E	Own	U	4	Own	Sp	36.8	4	D	165	4205	32x6	34x7
Dodge Bros.	21 Pas	1820	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	N E	Own	U	4	Own	Sp	41.4	4	D	150	3930	32x6	34x7
Dodge Bros.	2	1545	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	N E	Own	U	4	Own	Sp	41.4	4	D	165	4070	32x6	34x7
Dodge Bros.	2	1615	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	N E	Own	U	4	Own	Sp	41.4	4	D	135	4225	32x6	32x6 D
Dodge Bros	3	1745	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	N E	Own	U	4	Own	Sp	46.3	4	D	165	4520	32x6	32x6 D
Dodge Bros.	3	1775	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	N E	Own	U	4	Own	Sp	46.3	4	D	185	4715	32x6	32x6 D
Dodge Bros.	3	1845	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	N E	Own	U	4	Own	Sp	46.3	4	D	110	1965	29x5.00 B	29x5.00 B
Durant Com. Chassis	½	495	Con	4	3⅜x4⅛	18.2	Pb	Til	Vac	Aut	Own	C	3	Own	Sp	16.16	4	4	107	1670	28x4.75	28x4.75
Fargo Packet	½	545	Own	4	3⅜x4⅛	21.0	Pb	Car	Vac	Rem	Own	U	3	Own	Sp	14.29	4	Tr	...	1835	4.75x20	4.75x20
Fargo Clipper	¾	725	Own	6	3¼x4¼	23.4	Pb	Str	Vac	Rem	Own	U	3	Own	Sp	14.29	4	Tr	...	2325	5.50x18	5.50x18
Ford A A	1½	540	Own	4	3⅞x4¼	24.0	P&S	Zen	Gra	Own	Own	U	3	Own	Wo	*15.95	4	4	131½	2250	30x5	32x6
F. W. D.—H	2	3300	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	Eis	Cotta	C	4	Own	St	38.1	4	R	121	5300	34x7	34x7
F. W. D.—B	3	4200	Own	4	4⅜x5½	36.1	Pb	Str	Gra	Eis	Own	C	3	Own	St	35.6	4	R	124	6460	36x6 S	36x6 S
F. W. D.—B-5	3	4525	Own	4	4⅜x5½	36.1	Pb	Str	Gra	Eis	Own	C	5	Own	St	88.6	4	R	132	6800	36x6 S	36x6 S
F. W. D.—U 6	3½	4575	Wak	6	4 x4¾	38.6	Pb	Zen	Vac	A B	Own	C	5	Own	St	88.6	4	R	148	7200	36x6 S	36x6 S
F. W. D.—M	3½-5	5000	Wak	6	4¼x4¾	43.3	Pb	Zen	Gra	Eis	Own	C	5	Own	St	88.6	4	R	132	7600	36x8 S	36x10 S
F. W. D.—M F	3½-5	5000	Wak	6	4¼x4¾	43.3	Pb	Zen	Vac	Eis	Own	C	5	Own	St	88.6	4	R	148	7775	36x8 S	36x10 S
F. W. D.—H T	2	3900	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	Eis	Br-L	C	7	Own	St	84.7	4	R	120	6000	36x8	36x8
F. W. D.—B T	3	4742	Own	4	4¾x5½	36.1	Pb	Str	Vac	Eis	Own	C	5	Own	St	101.0	4	R	133¾	7700	40x7 S	40x5 S D
F. W. D.—U 4	3	4575	Own	4	4⅜x5½	36.1	Pb	Str	Vac	Eis	Own	C	5	Own	St	88.6	4	R	148	7000	36x6 S	36x6 S
F. W. D.—X 6	6	6500	Wak	6	4¼x4¾	43.3	Pb	Zen	Vac	A B	Own	C	5	Own	St	88.6	4	4	170	9500	36x8	36x8
Garford 20 Y	1	1600	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Col	Sp	25.5	4	—	142	3900	B 30x5	B 30x5
Garford S 11 Y	1½	1900	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	29.2	4	—	162	4300	B 30x5	D B 30x5
Garford 30 Z	1½	2990	Bud D S 6	6	3⅝x5	31.2	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	—	168	4700	B 34x5	D B 34x5
Garford 40 Z	2	3240	Bud D S 6	6	3⅝x5	31.2	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	—	168	4900	B 36x6	D B 36x6
Garford 50 Z	2½	4419	Bud B U S	6	4 x5⅛	38.4	Pw	Zen	Vac	Aut	Br-L	U	5	Tim	Wo	63.0	4	—	175	7000	S 36x5	S 36x10
Garford 60 Z	3	4480	Bud B U S	6	4 x5⅛	38.4	Pw	Zen	Vac	Aut	Br-L	U	5	Tim	Wo	63.0	4	—	175	7100	S 36x5	S 36x12
Garford 70 Z	3½	5210	Bud B A 6	6	4⅛x5⅛	40.8	Pw	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	R	—	175	8200	S 36x6	S 36x12
Garford 80 Z	4	1330	Bud B A 6	6	4⅛x5⅛	40.8	Pw	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	R	—	175	8400	S 36x6	S 36x14
Gramm Imp. Jr.	*9000	3785	——	6	4⅜x4¾	45.9	Pb	Zen	Vac	L-N	—	U	4	—	D R	—	4	R	210	6800	34x7	34x7 D
Gramm Imp. Sr.	*13000	4935	——	6	4¾x5¾	54.1	Pb	Zen	Vac	L-N	—	U	4	—	D R	—	4	R	236	9400	36x8	36x8 D
Gramm 263-N	1-1¼	1485	Lyc S	6	3¼x4½	25.3	Pb	Zen	Gra	Aut	Cov	U	3	Eat 1002	Sp	21.3	4	R	133	3485	30x5	32x6
Gramm 363-N	1½	1485	Lyc S	6	3¼x4½	25.3	Pb	Zen	Gra	Aut	Cov	U	3	Eat 1002	Sp	21.3	4	R	133	3485	30x5	32x6
Gramm 463-N	2	1885	Lyc S	6	3¼x4½	25.3	Pb	Zen	Gra	Aut	Cov	U	3	Eat 1504	Sp	25.3	4	R	133	3800	32x6	34x7
Gramm 564-N	2½	2940	Lyc T S	6	3⅞x5	36.2	Pb	Zen	Gra	Aut	Ful G U	U	3	Wis 6617	D R	25.4	4	R	133	4800	32x6	32x6 D
Gramm 35	3	4160	Her L	4	4½x5¾	32.4	Pb	Zen	Vac	Aut	Ful H	C	8	Wis 8800	D R	115.5	4	R	153	7100	36x5 S	36x10 S
Gramm 35	3	4160	Lyc T S	6	3⅞x5	36.2	Pw	Zen	Vac	Aut	Ful H	C	8	Wis 8800	D R	115.5	4	R	153	7100	36x5 S	36x10 S
Gramm 38—Low Bed	3	4160	Lyc T S	6	3⅞x5	36.2	Pw	Zen	Vac	Aut	Ful GU	C	8	Wis 67310	D R	33.1	4	R	153	7100	36x5 S	36x10 S
Gramm 45	4	4735	Her L	4	4½x5¾	32.4	Pb	Zen	Vac	Aut	Ful H	C	8	Wis 1450	D R	128.0	4	R	150	7600	36x5 S	36x12 S
Gramm 45	4	4735	Lyc T S	6	3⅞x5	36.2	Pw	Zen	Vac	Aut	Ful H	C	8	Wis 1450	D R	128.0	4	R	153	7600	36x5 S	36x12 S
Gramm 48—Low Bed	4	4735	Lyc T S	6	3⅞x5	36.2	Pw	Zen	Vac	Aut	Ful GU	U	4	Wis 1250	D R	34.2	4	R	133	7600	36x5 S	36x12 S
Gramm 60	5	5370	Her G	4	4¾x5¾	36.1	Pb	Zen	Vac	Aut	Ful H	C	8	Wis 1700	D R	133.4	4	R	153	8700	36x6 S	36x14 S
Gramm 60	5	5370	Lyc T S	6	3⅞x5	36.2	Pw	Zen	Vac	Aut	Ful GU	U	8	Wis 1700	D R	133.4	4	R	153	8700	36x6 S	36x14 S
GMC T 11	*3800	625	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	Rem	Own	U	3	Own	Sp	14.7	4	D	109¾	1980	19.5.00 B	19x5.50 B
GMC T 19 (2003)	*6000	895	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	Rem	Own	U	4	Tim 5261 Bx	Sp	34.1	4	D	127¾	2925	20x5.50 B	32x6
*GMC T 30A (3003)	*8000	1395	Buick Std	6	3⅛x4⅝	26.3	Pb	Mar	P	Rem	Own	U	4	Eat 1606	Sp	28.6	4	D	136	4075	20x6.00 B	34x7
*GMC T 42A (4003)	*10000	1685	Buick Std	6	3⅛x4⅝	26.3	Pb	Mar	P	Rem	Own	U	4	Own	Sp	33.4	4	D	136	4510	20x7.00 B	36x8
†*GMC T 60A (5003)	*14500	2800	Buick Mst	6	3⅝x5	31.5	Pb	Mar	P	Rem	Own	U	4	Tim 65706 N	Wo	44.8	4	D	140	6090	32x6	32x6 D
*GMC K 102A (6001)	*28000	4250	Own 89	4	4½x6½	32.4	Pw	Mar	Vac	Eis	Own	C	7	Tim 67600	Wo	86.3	R	R	160	9520	36x6 S	40x14 S
*Hahn 24	1	1345	Her O	4	4 x5	25.6	Pb	Zen	Vac	Aut	Br-L 31	U	3	Eat 1002	Sp	—	R	R	138	3100	30x5	30x5
*Hahn 34	1½	2080	Her O	4	4 x5	25.6	Pb	Zen	Vac	Aut	Br-L 31	U	3	Eat 1504	Sp	—	R	R	150	3750	32x6	32x6
*Hahn 44	2	2250	Her O	4	4 x5	25.6	Pb	Zen	Vac	Aut	Br-L 31	U	3	Eat 1504	Sp	—	R	R	150	4100	32x6	34x7
Hahn 465	2	2740	Con 6 B	6	3¾x5	33.5	Pb	Zen	Vac	Aut	Br-L 35	U	4	Eat 1504	Sp	—	R	R	160½	4300	32x6	34x7
Hahn 54	2½	3300	Her L	4	4½x5¾	32.4	Pb	Zen	Vac	R B	Br-L 51	U	4	Tim 65000	Wo	—	R	R	144	5600	36x4 S	36x8 S
†Hahn 56	2½	3440	Con 6 B	6	3¾x5	33.8	Pb	Zen	Vac	Rem	Br-L 51	U	4	Eat 2252	Sp	—	R	D	160	5300	32x6	32x6 D
Hahn L	3	3600	Her L	4	4½x5¾	32.4	Pb	Zen	Vac	R B	Br-L 51	U	4	Tim 65704	Sp	—	R	R	149	5900	36x5 S	36x8 S D

*See special notations. †See special notations.

1929 COMMERCIAL CARS BUILT IN THE UNITED STATES

Make and Model	Capacity—tons	Chassis price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gearset	Location	No. Spds. for.	Rear Axle	Final Drive	Reduction in Low	Brakes, foot	Brakes, hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
Hahn 76	3½	4790	Her Y X C	6	4⅝x4¾	45.9	Pb	Zen	Vac	L-N	Br-L 51	U	4	Tim 65704	Wo	—	R	R	196	6500	34x7	34x7 D
Hahn M	4	4250	Her G	4	4¾x5¾	36.5	Pb	Zen	Vac	R B	Br-L 60	C	4	Tim 66700	Wo	—	R	R	160	7600	36x5 S	36x12 S
Hahn R	5	5100	Her G	4	4¾x5¾	36.5	Pb	Zen	Vac	R B	Br-L 60	C	4	Tim 66700	Wo	—	R	R	162	8800	36x6 S	40x6 S D
Hahn N	6	5200	Her G	4	4¾x5¾	36.4	Pb	Zen	Vac	R B	Br-L 60	C	4	Tim 66700	Wo	—	R	R	162	9200	36x6 S	40x6 S D
Hahn K B L	25 Pas	4300	Her W X C	6	4 x4½	38.4	Pb	Zen	Vac	L-N	Br-L 51	U	4	Wis 67310	D R	—	R	R	204	5600	32x6	32x6 D
Hahn K B H	29 Pas	5000	Her Y X C	6	4⅝x4¾	45.9	Pb	Zen	Vac	L-N	Br-L 51	U	4	Wis 67310	D R	—	R	R	220	6400	34x7	34x7 D
Hahn L B	33 Pas	6000	Con 15 H	6	4½x5¾	48.6	Pb	Zen	Vac	L-N	Br-L 60	U	4	Wis 1251 K	D R	—	R	R	247	9000	38x7	38x7 D
Indiana 200	1	1195	Wis F	6	3¼x4½	25.3	Pb	Zen	Vac	Aut	Br-L 20	U	3	Col 36000	Sp	20.71	4	Tr	137	3400	30x5	32x6
Indiana 300	1½	1475	Wis F	6	3¼x5¼	25.3	Pb	Zen	Vac	Aut	Br-L 20	U	3	Col 54030	Sp	21.26	4	Tr	149	3650	30x5	32x6
Indiana 111 X	2	1850	Her Ox	4	4 x5	25.6	Pb	Str	Vac	Eis	Br-L 35	U	4	Cla B 504	Sp	36.60	R	Tr	120	3830	32x6	32x6 D
Indiana 400	2	2495	Wis Y	6	3⅜x5	27.3	Pb	Str	Vac	Aut	Br-L 35	U	4	Cla B 506	Sp	30.33	4	Tr	157	4800	32x6	34x7
Indiana 115 A	2½	2740	Her Ox	4	4 x5	25.6	Pb	Str	Vac	Eis	Br-L 35	U	4	Cla B 720	Sp	42.80	R	Tr	132	5000	32x6	34x7 D
Indiana 615 A	2½	3070	Wisc Y	6	3⅜x5	27.3	Pb	Str	Vac	Eis	Br-L 35	U	4	Cla B 720	Sp	30.33	R	Tr	136	5190	32x6	34x7 D
Indiana 126	3	3495	Her L	4	4½x5¾	32.4	Pb	Str	Vac	Eis	Br-L 557	C	7	Tim 65704	Wo	80.7	R	Js	162½	7400	36x5	36x10 S
Indiana 127	3	3190	Her K	4	4¼x5¾	28.9	Pb	Str	Vac	Eis	Br-L 51	U	5	Cla B 720	Sp	41.72	R	R	141	6490	32x6	34x7 D
Indiana 626	3	4185	Wis H	6	4 x5	38.4	Pb	Str	Vac	Eis	Br-L 55	C	7	Tim 65074	Wo	80.7	R	Js	168½	7625	36x6 S	36x10 S
Indiana 627	3	3725	Wis H	6	4 x5	38.4	Pb	Str	Vac	Aut	Br-L 55	U	4	Cla B 720	Sp	42.80	R	R	162½	6500	36x5 S	36x10 S
Indiana 628	3	4355	Wis H	6	4 x5	38.4	Pb	Str	Vac	Aut	Br-L 55	U	4	Cla B 720	Sp	37.45	R	R	216¾	6585	34x7	34x7 D
Indiana 127 A	3	3375	Her K	4	4¼x5¾	28.9	Pb	Str	Vac	Eis	Br-L 51	U	5	Cla B 720	Sp	41.72	R	R	141	6800	32x6	34x7 D
Indiana 627 A	3	3690	Wisc H	6	4 x5	38.4	Pb	Str	Vac	Eis	Br-L 51	U	5	Cla B 70	Sp	41.72	R	R	147	6800	32x6	34x7 D
Indiana 138	4	4380	Her L	4	4½x5¾	32.4	Pb	Str	Vac	Eis	Br-L 60	C	7	Tim 66700 D	Wo	83.1	R	R	162½	7850	36x5	36x12 S
Indiana 638	4	4955	Wisc H	6	4 x5	38.4	Pb	Str	Vac	Eis	Br-L 60	C	7	Tim 66700 D	Wo	83.1	R	R	168½	8100	36x5	36x12 S
Indiana 41	5	5460	Her G	4	4¾x5¾	36.1	Pb	Str	Vac	Eis	Br-L 60	C	7	Tim 66700 D	Wo	95.0	R	R	172	9600	36x6	40x12 S
Int. Harvester Sp. Del.	¾	695	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	Rem	Mec	U	3	Eat 502 R	Sp	15.1	4	4	124	2200	30x5.25	30x5.25 P
Int. Harv. 6 Spd. Spec.	1	795	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	Rem	Mec	U	3	Eat 1124	Sp	*52.6	4	4	124	2430	30x5	30x5 P
Int. Harvester S-24	1¼	1135	Lyc C T	4	3⅜x5	22.5	Pw	Zen	Vac	Rem	Own	U	3	Eat 1002	Sp	21.3	4	4	130	3200	32x4½	32x4½ P
Int. Harvester S-26	1¼	1285	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	Rem	Own	U	3	Eat 1002	Sp	21.3	4	4	130	3250	32x4½	32x4½ P
Int. Harvester SF-34	1½	1425	Lyc C T	4	3⅜x5	22.5	Pw	Zen	Vac	Rem	Own	U	3	Eat 1502	Sp	22.6	4	4	140	3520	30x5	30x5 P
Int. Harvester SF-36	1½	1575	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	Rem	Own	U	3	Eat 1502	Sp	22.6	4	4	140	3570	30x5	30x5 P
Int. Harvester SL-34	1½	1525	Lyc C T	4	3⅜x5	22.5	Pw	Zen	Vac	Rem	Own	U	3	Eat 1502	Sp	22.6	4	4	160	3595	30x5	30x5 P
Int. Harvester SL-36	1½	1675	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	Rem	Own	U	3	Eat 1502	Sp	22.6	4	4	160	3645	30x5	30x5 P
Int. Harvester SD-44	2	1565	Lyc C T	4	3⅜x5	22.5	Pw	Zen	Vac	A B	Own	U	4	Eat 2002	Sp	40.6	4	4	117	3700	30x5	32x6 P
Int. Harvester SD-46	2	1715	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	A B	Own	U	4	Eat 2002	Sp	40.6	4	4	117	3750	30x5	32x6 P
Int. Harvester SF-46	2	1925	Lyc 4 S L	6	3¼x4½	25 3	Pb	Zen	Vac	Rem	Own	U	4	Eat 2002	Sp	40.6	4	4	140	4000	32x6	34x7
Int. Harvester 54-C	2½	3200	Own	4	4¼x5	28.9	C S	Zen	Gra	R B	Own	U	4	Own A M 428	Ch	51.8	R	D	140	6400	36x5	36x10
Int. Harvester 54	2½	3550	Own	4	4¼x5	28.9	C S	Zen	Gra	R B	Own	U	4	Eat 54 65000	D R	53.7	R	D	140	6345	36x5	36x8
Int. Harvester 74-C	3½	4550	Own	4	4¼x5	28.9	C S	Zen	Gra	R B	Own	U	4	Own A M 427	Ch	*86.0	R	D	154	8715	36x6	40x12
Int. Harvester 74	3½	4550	Own	4	4¼x5	28.9	C S	Zen	Gra	R B	Own	U	4	Eat 74 100000	D R	61.6	R	D	160	8175	36x6	40x12
Int. Harvester 104-C	5	4800	Own	4	4¼x5	28.9	C S	Zen	Gra	R B	Own	U	4	Own A M 427	Ch	86.0	R	D	154	8890	36x6	40x14
Int. Harvester HS-54	2½	3850	H-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	R B	Own	U	5	Eat 54 65000	D R	60.5	4	4	*148	8000	36x5	36x8
Int. Harvester HS-54-C	2½	3850	do 151	4	4¼x5½	28.9	Pb	Zen	Vac	R B	Own	U	5	Own A M 428	Ch	63.8	4	4	*148	8665	36x5	36x10
Int. Harvester HS-74	3½	4850	do 152	4	4¾x5½	36.1	Pb	Zen	Vac	R B	Own	U	5	Eat 74 100000	D R	70.5	4	4	*160	10700	36x6	40x12
Int. Harvester HS-74-C	3½	4850	do 152	4	4¾x5½	36.1	Pb	Zen	Vac	R B	Own	U	5	Own A M 427	Ch	79.1	4	4	*160	11000	36x6	40x12
Int. Harv'st'r HS-104-C	5	5500	do 152	4	4¾x5½	36.1	Pb	Zen	Vac	R B	Own	U	5	Own A M 427	Ch	90.5	4	4	*160	11095	36x6	40x12
*Larrabee 20	1	1595	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Gra	Rem	Br-L	U	3	Col	Sp	5.13	4	D	142	4170	30x5	30x5
*Larrabee 30	1½	1875	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Gra	Rem	Br-L	U	3	Col	Sp	5.13	4	D	161	4550	32x6	32x6
*Larrabee 40	2	2965	Con 16 R	6	4 x4½	38.4	Pb	Zen	Gra	Rem	Br-L	U	4	Wisc	D R	5.35	4	D	176	5950	32x6	32x6 D
*Larrabee 50	2½	3285	Con 16 R	6	4 x4½	38.4	Pb	Zen	Gra	Rem	Br-L	U	4	Wisc	D R	5.35	4	D	183	6030	32x6	32x6 D
*Larrabee 60	3	3980	Con 18 R	6	4 x4½	38.4	Pb	Zen	Gra	Rem	Br-L	U	4	Tim	Wo	5.35	4	D	195	7140	34x7	34x7 D
*Larrabee 70	3½	4600	Con 20 R	6	4⅛x4¾	—	Pb	Zen	Gra	Rem	Br-L	C	7	Tim	Wo	9.5	4	D	205	7740	34x7	34x7 D
Mack A B	1½	3000	Own	4	4 x5	25.6	Sp	Str	Gra	Spf	Own	U	4	Own	Ch	34.44	D	R	146½	5350	36x4	36x3½ D
Mack A B	1½	3450	Own	4	4 x5	25.6	Sp	Str	Gra	Spf	Own	U	4	Own	D R	36.8	R	D	or	5650	36x4	36x6
Mack A B	2	3300	Own	4	4¼x5	28.9	Sp	Str	Gra	Spf	Own	U	4	Own	Ch	34.44	D	R	164½	5450	36x4	36x3½ D
Mack A B	2	3750	Own	4	4¼x5	28.9	Sp	Str	Gra	Spf	Own	U	4	Own	D R	36.38	R	D	on all	5800	36x4	36x6
Mack A B	2½	3400	Own	4	4¼x5	28.9	Sp	Str	Gra	Spf	Own	U	4	Own	Ch	43.02	D	R	these	5500	36x4	36x4 D
Mack A B	3	3850	Own	4	4¼x5	28.9	Sp	Str	Gra	Spf	Own	J	4	Own	D R	44.9	R	D	models	5950	36x4	36x8
Mack A C	3½	4950	Own	4	5 x6	40.0	Sp	Str	Gra	Spf	Own	J	4	Own	Ch	48.37	Js	R	156	9100	36x5	40x5, 40x10 S
Mack A C	5	5500	Own	4	5 x6	40.0	Sp	Str	Gra	Spf	Own	J	4	Own	Ch	53.31	Js	R	168 or	9550	36x6	40x6 D
Mack A C	7½	6000	Own	4	5 x6	40.0	Sp	Str	Gra	Spf	Br-L 35	U	4	Own	Ch	67.38	Js	R	180	10050	36x7	40x7 D
Mack B B	1½	3500	Own	4	4¼x5	28.9	P&S	Str	E	N E	Own	U	4	Own	S R	*23.81	4	D	165½	6450	32x6	32x6 D
*Mack A B	1½–2	3000	Own	4	4¼x5	28.9	P&S	Str	Gra	Spf	Own	U	4	Own	Ch	*34.4	R	D	146½	5400	36x4	36x6 S
Mack A B	2½–3	3400	Own	4	4¼x5	28.9	P&S	Str	Gra	Spf	Own	U	4	Own	Ch	*43.9	R	D	146½	5650	36x4	36x8 S
Mack B J	3–4	5800	Own	6	4¼x5	43.3	P&S	Str	E	N E	Own	C	4	Own	D R	*22.40	4	D	168½	8950	36x8	36x8 D
Mack A K	3½–5	4850	Own	4	5 x6	40.0	P&S	Str	Gra	Spf	Own	C	4	Own	D R	*45.3	4	D	162	8900	36x5	36x5 D
Mack A C	3½–5	4950	Own	4	5 x6	40.0	P&S	Str	Gra	Spf	Own	J	4	Own	Ch	*48.4	Js	R	156	9100	36x5	40x10 S
Mack A C	5½–7	5500	Own	4	5 x6	40.0	P&S	Str	Gra	Spf	Own	J	4	Own	Ch	*57.41	Js	R	156	9550	36x6	40x12 S
Mack A C	7½	6000	Own	4	5 x6	40.0	P&S	Str	Gra	Spf	Own	J	4	Own	Ch	*67.1	Js	R	156	10050	36x7	40x14 S
Mack A B Tractor	5–6	3400	Own	4	4¼x5	28.9	P&S	Str	Gra	Spf	Own	U	4	Own	Ch	*51.1	D	R	122½	5700	36x4	36x8 S
Mack A C Tractor	7–10	4950	Own	4	5 x6	40.0	P&S	Str	Gra	Spf	Own	J	4	Own	Ch	*58.00	Js	R	128	9150	34x5	36x5 D
Mack A C Tractor	11–14	5500	Own	4	5 x6	40.0	P&S	Str	Gra	Spf	Own	J	4	Own	Ch	*62.2	Js	R	128	9600	34x6	36x6 D
Mack A C Tractor	15 Pas	6000	Own	4	5 x6	40.0	P&S	Str	Gra	Spf	Own	J	4	Own	Ch	*73.5	Js	R	128	9950	34x7	36x7 D
Mack A B Bus C T	15 Pas	4650	Own	4	4¼x5	28.9	P&S	Str	Vac	N E	Own	U	4	Own	D R	—	R	D	196	7200	Opt.	Opt.
Mack A B Bus C T	29 Pas	4750	Own	4	4¼x5	28.9	P&S	Str	Vac	N E	Own	U	4	Own	D R	—	R	D	225¼	7300	Opt.	Opt.
**†Mack A B Bus	25 Pas	6195	Own	4	4¼x5	28.9	P&S	Str	Vac	N E	None		—	Own	D R	—	—	—	196	8545	34x7	34x7 D
**†Mack A B Bus	29 Pas	6295	Own	4	4¼x5	28.9	P&S	Str	Vac	N E	None		—	Own	D R	—	—	—	225¼	8545	34x7	34x7 D
Mack A B Parlor Car	25 Pas	4750	Own	4	4¼x5	28.9	P&S	Str	Vac	N E	Own	U	4	Own	D R	—	R	D	230½	7340	Opt.	Opt.
Mack A L Bus C T	29 Pas	6500	Own	6	4¼x5	43.3	P&S	Str	E	N E	Own	C	4	Own	D R	—	4	D	233	9000	34x7	34x7 D
Mack A L	29 Pas	6500	Own	6	4¼x5	43.3	P&S	Str	E	N E	Own	C	4	Own	D R	—	4	D	233	9000	34x7	34x7 D
**†Mack A L	29 Pas	8436	Own	6	4¼x5	43.3	P&S	Str	E	N E	None		—	Own	D R	—	—	—	233	11520	34x7	34x7 D
Moreland R R-6	1½–2	1850	Con 16-C	6	3⅜x4⅝	27.3	Pb	Zen	P	Aut	Br-L 35	U	4	Tim 54000 H	Sp	32.95	4	D	158½	4000	32x6	32x6
Moreland B-6	2–2½	2200	Con 16-C	6	3⅜x4⅝	27.3	Pb	Zen	P	Aut	Br-L 35	U	4	Tim 63721 H	Wo	34.8	4	D	158½	4500	36x5 S	36x6 S
Moreland E-6	2½–3	3700	Her W X C	6	4 x4½	38.4	Pb	Zen	P	Aut	Br-L 51	U	4	Tim 65000 H	Wo	34.8	*4	D	182	6000	34x7	34x7 D
Moreland Ex. 6	3½–4	3750	Her W X C	6	4 x4½	38.4	Pb	Zen	P	Aut	Br-L 51	U	5	Tim 65704 N	Wo	46.0	*4	D	182	6500	36x4 S	36x8 S
Moreland E D-6	5	4700	Her W X C	6	4 x4½	38.4	Pb	Zen	P	Aut	Br-L 51	U	5	Own	Wo	52.2	*4	D	196	8500	36x8	36x8
Moreland H-6	5	4990	Her Y X C	6	4⅝x4¾	45.9	Pb	Zen	P	Aut	Br-L 55	C	7	Tim 66702 W	Wo	82.3	*R	D	196	8000	36x5 S	36x10 S
Moreland H D S-6	6	5800	Her Y X C	6	4⅝x4¾	45.9	Pb	Zen	P	Aut	Br-L 60	C	7	Own	Wo	81.6	*4	D	221	10500	36x6 S	36x8
Moreland S D-6	10	6950	Her YXC 2	6	4½x4¾	48.6	Pb	Zen	P	Aut	Br-L 60	C	7	Own	Wo	89.0	*4	D	220	11500	36x7 S	36x10 S
Moreland T T-6	10	8600	Con 15-H	6	4½x5¾	48.6	Pw	Str	P	Aut	Br-L 70	C	7	Own	Wo	98.5	*4	D	221	12500	36x7 S	36x10
*Fleet Arrow F A-1	1½–2	2450	Own F A	6	3½x5	29.5	Pb	Str	A P	Rem	Own	U	3	Own	Sp	33.3	4	Tr	140	3950	32x6.00	34x7
*Pierce-Arrow F A-1	1½–2	2450	Own	6	3½x5	29.4	Pw	Str	P F	Del	Own	U	3	Tim	St	21.4	4	Tr	140	4100	32x6	32x6 D
*Pierce-Arrow X A-1	2	3500	Own	4	4 x5½	25.6	Pw	Str	Pre	Del	Own	C	4	Own	Wo	44.2	D	R	150	6750	36x4	36x5 D S
*Pierce-Arrow X B-1	3	3750	Own	4	4 x5½	25.6	Pw	Str	Pre	Del	Own	C	4	Own	Wo	48.1	D	R	150	6830	36x5	36x5 D S
*Pierce-Arrow H B-1	5	4500	Own	4	4 x5½	25.6	Pw	Str	Pre	Del	Own	C	7	Own	Wo	95.0	D	R	156	8400	36x5	36x6 D S
*†Pierce-Arrow W C-1	4	5100	Own	4	4½x6¾	32.4	Pw	Str	Pre	Del	Own	C	4	Own	Wo	41.5	D	R	162	8780	36x5	36x6 D S
*†Pierce-Arrow R D-1	5	5400	Own	4	4½x6¾	32.4	Pw	Str	Pre	Del	Own	C	4	Own	Wo	40.5	D	R	162	9440	36x6	36x7 D S
*†Pierce-Arrow R F-1	7½	5600	Own	4	4½x6¾	32.4	Pw	Str	Pre	Del	Own	C	4	Own	Wo	51.9	D	R	168	10320	36x6	40x8 D S
†Pierce-Arrow R F-T	7½	5600	Own	4	4½x6¾	32.4	Pw	Str	Pre	Del	Own	C	4	Own	Wo	51.9	D	R	132	940	36x6	36x8 D S
Relay 20 B	1	1700	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Own	Relay	25.7	4	—	142	4100	B 30x5	E 30x5
Relay S 11 B	1½	1900	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Own	Relay	30.0	4	—	162	4500	B 30x5	D B 30x5
Relay 30 A	1½	2990	Bud D S 6	6	3⅝x5	31.2	Pw	Zen	Vac	Aut	Br-L	U	4	Own	Relay	34.5	4	—	168	5300	B 34x5	D B 34x5
Relay 40 A	2	3240	Bud D S 6	6	3⅝x5	31.2	Pw	Zen	Vac	Aut	Br-L	U	4	Own	Relay	34.5	4	—	168	5500	B 36x6	D B 36x6
Relay 50 C	2½	4415	Bud B U S	6	4 x5⅛	38.4	Pw	Zen	Vac	Aut	Br-L	U	5	Own	Relay	58.5	4	—	175	7300	B 36x6	S 36x10
Relay 60 C	3	4480	Bud B U S	6	4 x5⅛	38.4	Pw	Zen	Vac	Aut	Br-L	U	5	Own	Relay	58.5	4	—	175	7450	B 36x6	S 36x12
Relay 70 C	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pw	Zen	Vac	Aut	Cov	C	8	Own	Relay	84.2	R	—	175	8600	B 36x6	S 40x12
Relay 80 C	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pw	Zen	Vac	Aut	Cov	C	8	Own	Relay	84.2	R	—	175	8800	B 36x6	S 40x14
Reo Speedwagon Jr.	½	895	Con	6	3⅜x5	27.3	P&S	Sch	Vac	Rem	W-G	U	3	Sal	Sp	14.63	4	Tr	115	....	28x5.25 B	28x5.25 B
*Reo Speedwag'n Ton'r	1	995	Con	6	3⅜x4	27.3	P&S	Sch	Vac	Rem	W-G	U	3	Own	Sp	18.478	4	Tr	123	....	30x5	30x5
Reo General Utility	1½	1345	Own	6	3⅛x5	24.3	P&S	Sch	Vac	Rem	Own	U	4	Own	Sp	22.96	4	Tr	156	....	32x6	32x6
Reo St'd Speedwagon	1½	1245	Own	6	3⅛x5	24.3	P&S	Sch	Vac	Rem	Own	U	4	Own	Sp	22.96	4	Tr	147	....	32x6	32x6
Reo Mast. Speedwagon	2	1545	Own	6	3⅛x5	24.3	P&S	Sch	Vac	Rem	Own	U	4	Own	Sp	37.62	4	Tr	152	....	30x5	30x5 D
Reo H. D. Speedwagon	3	1985	Own	6	3⅛x5	24.3	P&S	Sch	Vac	Rem	Own	U	4	Own	Sp	41.05	4	Tr	163	....	32x6	32x6 D
*Republic 75-4	1¼	1395	Lyc C T	4	3¾x5	22.5	Pb	Zen	Vac	Aut	Ful	U	3	Eat	St	21.3	R	R	124	3000	30x5	30x5
*Republic 76-4	1½	1575	Lyc C T	4	3¾x5	22.5	Pb	Zen	Vac	Aut	Ful	U	3	Eat	St	21.3	R	R	146	3350	30x5	30x5
Republic 85	2	2095	Lyc C 4	4	4 x5	25.6	Pb	Zen	Vac	Aut	Ful	U	3	Eat	St	25.5	R	R	155	4250	30x5	30x5 D
Republic 88	2	1945	Lyc C 4	4	4 x5	25.6	Pb	Zen	Vac	Aut	Ful	U	3	Eat	St	26.5	R	R	110	3350	30x5	30x5 D

* See special notations. † See special notations.

(KEY TO ABBREVIATIONS AND TABLE CONTINUED ON NEXT PAGE)

Major Specifications and Mechanical Details of 1929 Commercial Car Built in the United States

Make and Model	Capacity—tons	Chassis price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gearset	Location	No. Spds. for.	Rear Axle	Final Drive	Reduction in Low	Brakes, foot	Brakes, hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
Republic 50	2	2095	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	Aut	Ful	U	3	Eat	St	25.5	R	D	143	4100	30x5	30x5 D
Republic 58	2½	2495	Lyc C 4	4	4 x5	25.6	Pb	Zen	Vac	Aut	Ful	U	3	Eat	St	27.5	R	D	122	4300	32x6	32x6 D
†Republic 60-61	2½	2985	Lyc T F	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Ful	U	3	Eat	St	22.0	R	D	151	4600	32x6	32x6 D
Republic 65	3	3695	Lyc T S	6	3⅞x5	36.2	Pb	Zen	Vac	Aut	Ful	U	4	Eat	D R	36.0	4	D	179	6100	34x7	34x7 D
Republic 15W	2	2545	Wak V	4	4 x5	25.6	Pw	Zen	Vac	A B	Ful	U	3	Eat	Int	28.8	D	R	153	4200	34x4 S	34x7 S
†Republic 25W-25WRB	3	3390	Wak C U	4	4⅜x5¾	30.6	Pb	Zen	Vac	A B	Ful	U	4	Eat	Int	40.3	D	R	165	5800	36x5 S	36x10 S
Republic 30W-30WB	4½	4185	Wak C U	4	4⅜x5¾	30.6	Pb	Zen	Vac	A B	Ful	U	4	Eat	Int	49.2	D	R	156	6700	36x5 S	36x12 S
Rugby Lt. Dely Panel	½	*775	Con	4	3⅜x4¼	18.2	Pb	Til	Vac	Aut	Own	C	3	Own	Sp	14.79	4	4	107	2325f	28x4.75	28x4.75
Rugby Fast Mail Panel	¾	*975	Con	6	2⅞x4¾	19.8	Pb	Til	Vac	Aut	Own	U	3	Own	Sp	14.79	4	4	110	2600f	29x5	29x5
Rugby Express	1¼	975	Con	6	2¾x4¾	18.2	Pb	Til	Vac	Aut	Own	C	4	Own	Sp	22.4	4	4	128	2530	30x5	30x5
Rugby Mod X	1¼	680	Con	4	3⅜x4¼	18.2	Pb	Til	Vac	Aut	Own	C	3	Own	Sp	24.16	4	4	124	2175	29x5	30x5
Ruggles 18	1¼	1388	Lyc C T	4	3¾x5	22.5	Pb	Zen	Vac	Rem	Br-L 20B	U	3	Col 3400	St	15.7	R	R	134	3000	30x5	30x5
Ruggles 18	1¼	1495	Lyc S G	6	3¼x4½	25.3	Pb	Zen	Vac	Rem	Br-L 20B	U	3	Col 3400	St	15.7	R	R	134	3000	30x5	30x5
Ruggles 22	1½	2045	Her Ox	4	4 x5	25.6	Pb	Zen	Gra	Rem	Br-L 31	U	3	Col 5300	St	24.5	R	R	152	3600	32x6	32x6
Ruggles 30	1½	2047	Lyc 4 S G	6	3¼x4½	25.3	Pb	Str	Vac	Rem	Br-L 31	U	3	Eat 1504	St	29.7	R	R	160	4250	32x6	32x6 D
Ruggles 22 H	2	2345	Her Ox	4	4 x5	25.6	Pb	Zen	Gra	Rem	Br-L 35	U	4	Wis 4600	D R	29.4	R	R	152	3900	32x6	34x7
Ruggles 25	2	2662	Lyc T F	6	3⅝x5	31.5	Pb	Zen	Vac	Rem	Br-L 35	U	4	Wis 4600	D R	29.4	R	R	158	4000	32x6	34x7
Ruggles 42	3½	2565	Her Ox	4	4 x5	25.6	Pb	Zen	Gra	A B	Br-L 35	U	4	Wis 6600 B	D R	37.4	R	R	152	4300	34x4 S	34x8 S
Ruggles 45	3	3195	Her Ox	4	4 x5	25.6	Pb	Zen	Gra	A B	Br-L 35	U	4	Wis 8800 B	D R	42.0	R	R	148	5200	36x5 S	36x10 S
Service 20 Y	1	1600	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Col	Sp	25.5	4	—	142	3900	B 30x5	B 30x5
Service S 11 Y	1½	1990	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	29.2	4	—	162	4300	B 30x5	B 30x5
Service 30 Z	1½	2900	Bud D S 6	6	3⅝x5	31.2	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	—	168	4700	B 34x5	D B 34x5
Service 40 Z	2	3240	Bud D S 6	6	3⅝x5	31.2	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	—	168	4900	B 36x6	D B 36x6
Service 50 Z	2½	4415	Bud B U S	6	4 x5⅛	38.4	Pw	Zen	Vac	Aut	Br-L	U	5	Tim	Wo	63.0	4	—	175	7000	S 36x5	S 36x10
Service 60 Z	3	4480	Bud B U S	6	4 x5⅛	38.4	Pw	Zen	Vac	Aut	Br-L	U	5	Tim	Wo	63.0	4	—	175	7100	S 36x5	S 36x12
Service 70 Z	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pw	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	R	—	175	8200	S 36x6	S 36x12
Service 80 Z	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pw	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	R	—	175	8400	S 36x6	S 36x14
Standard 2½ K	2½-3⅛	3200	Con K-4	4	4⅛x5¼	27.2	Pb	Str	Vac	Aut	Br-L 35	C	4	Tim 65600	Sp Wo	34.8	R	D	147	5400	36x5 S	36x8 S
Standard 3½ K	3½-5	4350	Con L-4	4	4½x5½	32.4	Pb	Str	Vac	Aut	Br-L 55	C	7	Tim 66700	Sp Wo	83.0	R	D	160	7485	36x5 S	36x12 S
Standard 5 K	5-7	5250	Con B-5	4	4¾x6	36.1	Pb	Str	Vac	Aut	Br-L 60	C	7	Tim 68700	Sp Wo	83.6	R	D	164	8700	36x6 S	40x14 S
*Stewart Buddy 21	¾	895	Lyc W S G	6	2⅞x4¾	19.8	Pb	Str	Gra	Rem	W-G	U	3	Sal	Sp	30.0	R	D	118	2694	30x5.50	30x5.50
*Stewart Buddy 21 X	1	995	Lyc W S G	6	2⅞x4¾	19.8	Pb	Str	Vac	Rem	W-G	U	3	Sal	Sp	30.0	4	D	128	2806	30x5	30x5
*Stewart 16	1¼	1295	Lyc C T	4	3¾x5	22.5	Pb	Str	Vac	Rem	Ful	U	3	Cla	Sp	24.0	4	D	130	3326	32x6	32x6
*Stewart 16 X	1¼	1295	Lyc 4 S L	6	3¼x4½	25.3	Pw	Str	Vac	Rem	Ful	U	3	Cla	Sp	24.0	4	D	130	3326	32x6	32x6
*Stewart 24	1½	1645	Lyc C 4 W	4	4 x5	25.6	Pb	Str	Vac	Rem	Ful	U	4	Cla	Sp	27.3	4	D	145	3917	30x5	30x5 D
*Stewart 24 X	1½	1645	Lyc 4 S L	6	3¼x4½	25.3	Pw	Str	Vac	Rem	Ful	U	4	Cla	Sp	27.3	4	D	145	3917	30x5	30x5 D
*Stewart 25	2	1975	Lyc C 4 W	4	4 x5	25.6	Pb	Str	Vac	Rem	Ful	U	4	Tim	Sp	27.3	4	D	145	4088	32x6	35x7
*Stewart 25 X	2	1975	Lyc 4 S L	6	3¼x4½	25.3	Pw	Str	Vac	Rem	Ful	U	4	Tim	Sp	27.3	4	D	145	4088	32x6	32x7
*Stewart 25 W	2	2095	Lyc C 4 W	4	4 x5	25.6	Pb	Str	Vac	Rem	Ful	U	4	Tim	Sp	29.0	4	D	146	4160	32x6	34x7
*Stewart 25 X W	2	2095	Lyc 4 S L	6	3¼x4½	25.3	Pw	Str	Vac	Rem	Ful	U	4	Tim	Wo	29.0	4	D	145	4160	32x6	32x7
Stewart 26 X	2	2190	Lyc T	6	3⅝x5	31.5	Pw	Str	Vac	Rem	Ful	U	4	Tim	Sp	29.0	4	D	145	5020	32x6	32x6 D
Stewart 26 X W	2	2290	Lyc T	6	3⅝x5	31.5	Pw	Str	Vac	Rem	Ful	U	4	Tim	Wo	29.0	4	D	165	5095	32x6	32x6 D
*Stewart 18 X	2½	2690	Lyc T	6	3⅝x5	31.5	Pw	Str	Vac	Rem	Ful	U	4	Tim	Wo	29.0	4	D	165	5788	32x6	32x6 D
*Stewart 19 X	3	3490	Lyc F	6	3⅞x5	36.2	Pw	Str	Vac	Rem	Ful	U	4	Tim	Wo	34.8	4	D	165	6540	36x5	36x10
*Stewart 22 X	4	4200	Lyc F	6	3⅞x5	36.2	Pw	Str	Vac	Rem	Ful	U	12	Tim	Wo	34.8	4	D	165	7990	36x5	36x12
Studebaker 6 D-N	1	1075	Own	6	3⅜x4½	27.3	P C	Str	P	Rem	Own	U	3	Own	Sp	13.7	4	Js	140	2860	30x5	30x5
Studebaker "77" Jr.	2½	2580	Own	8	3½x4⅜	39.2	P C	Str	P	Rem	Ful	U	3	Eat	Sp	19.8	4	Js	158	....	20x6.75 B	20x6.75 B
Studebaker "76" Spec.	3	2775	Own	8	3½x4⅜	39.2	P C	Str	P	Rem	Ful	U	3	Eat	Sp	19.8	4	Js	184	....	20x7.50 B	20x7.50
Studebaker "75" H. D.	3½	3275	Own	8	3½x4⅜	39.2	P C	Str	P	Rem	Ful	U	4	Eat	Sp	24.6	4	Js	184	....	20x7.50 B	20x7.50
Stud. Ersk. Mod. 52-B	½	675	Con 9 F	6	2¾x4½	18.0	P C	Sch	Vac	Rem	W-G	U	3	Tim	Sp	15.6	4	Js	109	....	30x5.00	30x5.00
Victor 30	1¼	1595	Con	6	3⅜x4	27.3	Pb	Zen	Vac	Rem	Cov	U	3	Tim	Sp	—	4	D	131	3000	30x5	30x5
Victor 35	1½	1895	Con	6	3⅜x4	27.3	Pb	Zen	Vac	Rem	Cov	U	3	Tim	Sp	—	4	D	144	3200	30x5	30x5 D
Victor 40	2	2195	Her	6	3¾x4½	33.7	Pb	Zen	Vac	Rem	Ful	U	4	Wis	D R	—	4	D	148	4300	32x6	34x7
Victor 45	2½	2495	Her	6	3¾x4½	33.7	Pb	Zen	Vac	Rem	Ful	U	4	Wis	D R	—	4	D	148	4500	32x6	32x6 D
Victor 70	3	3495	Her	6	4 x4½	38.4	Pb	Zen	Vac	Rem	Ful	U	4	Wis	D R	—	4	D	162	5800	34x7	40x8
Victor 75	3½	3895	Her	6	4 x4½	38.4	Pb	Zen	Vac	Rem	Ful	U	4	Wis	D R	—	4	D	162	6000	34x7	34x7 D
Whippet 96	½	365	Own 96 A	4	3¼x4¾	15.6	Pb	Til	Vac	Aut	Own	U	3	Own	Sp	15.84	4	R	103¼	1469	28x4.75	28x4.75
Whippet 96 A	½	365	Own 96 A	4	3⅛x4¾	15.6	Pb	Til	Vac	Aut	Own	U	3	Own	Sp	14.75	4	R	103¼	1526	28x4.75	28x4.75
†White 15 B	1	1545	Own G K A	4	3¾x5⅛	22.5	C S	Zen	Vac	L-N	Own	C	4	Own	Sp	18.6	R	R	133½	3242	30x5	30x5
†White 57	1¼	2725	Own G R C	4	4 x5¾	25.6	Pw	Zen	Vac	L-N	Own	U	4	Own	Sp	19.3	R	R	146	3774	32x6	32x6
†White 20-A	1½	2125	Own G K A	4	3¾x5⅛	22.5	C S	Zen	Vac	L-N	Own	C	4	Own	D R	32.1	R	R	145½	4412	34x5	34x5 D P
†White 56	2	3125	Own G R C	4	4 x5¾	25.6	Pw	Zen	Vac	Mag	Own	U	4	Own	Sp	26.1	R	D	165	5157	36x4 S	36x7 S
†White 51-A	2½	3750	Own G R B	4	4¼x5¾	28.9	Pb	Zen	Vac	Mag	Own	U	4	Own	Sp	35.5	R	D	170	6256	36x5 S	36x8 S
†White 55	3½	4650	Own G R B	4	4¼x5¾	28.9	Pb	Zen	Vac	Mag	Own	U	4	Own	I G	50.4	D	R	174	8402	36x5 S	40x5 S D
†White 52-T	3½	4700	Own G R B	4	4¼x5¾	28.9	Pb	Zen	Vac	Mag	Own	U	4	Own	I G	58.4	D	R	129½	8126	36x5 S	40x5 S D
†White 52	5	5100	Own G R B	4	4¼x5¾	28.9	Pb	Zen	Vac	Mag	Own	U	5	Own	I G	91.9	D	R	174	9184	36x6 S	40x12 S
†*White 58	3	4400	Own G R B	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	I G	49.5	D	A	180	7400	36x5 S	36x5 S D
*†White 50B 25-29 Pas.	—	5350	Own G R B	4	4¼x5¾	28.9	Pb	Zen	Vac	Mag	Own	U	4	Own	Sp	19.3	R	D	198	6494	34x7	34x7 D
*†White 53 18-21 Pass.	—	4250	Own G R B	4	4¼x5¾	28.9	Pb	Zen	Vac	Mag	Own	U	4	Own	Sp	18.1	R	D	180	6000	34x7.50B	34x7.50DB
*†White 54 25-29 Pass.	—	7500	Own 1 A 1	6	4⅝x5¾	45.9	Pw	Zen	Aut-P	L-N	Own	U	4	Own	Sp	23.0	4	D	227	7915	38x9.00B	38x9.00DB
White 60	1	1850	Own 2 A	6	3½x4½	29.4	Pw	Zen	Vac	Rem	Own	U	3	Own	Sp	17.5	*4	D	138	3738	30x5	32x6
Willys-Knight 15	1½	1545	Own K G T	6	2⅛x3⅞	20.7	Pb	Til	Vac	Aut	Ful D U	U	3	Eat 1002	Sp	24.3	4	R	134	3300	30x5	32x6
Willys-Knight 16	1½	1595	Own K G T	6	2⅛x3⅞	20.7	Pb	Til	Vac	Aut	Ful D U	U	3	Eat 1002	Sp	24.3	4	R	151	3400	30x5	32x6
Willys-Knight 20	2	1945	Own K G T	6	3⅜x4¾	27.3	Pw	Til	Vac	Aut	Ful D U	U	3	Eat 1504	Sp	28.4	4	R	150	3800	32x6	34x7
Willys-Knight 21	2	1995	Own K G T	6	3⅜x4¾	27.3	Pw	Til	Vac	Aut	Ful D U	U	3	Eat 1504	Sp	28.4	4	R	164	3900	32x6	34x7
Willys-Knight 25	2½	2545	Own K G T	6	3⅜x4¾	27.3	Pw	Til	Vac	Aut	Ful G U	U	4	Wis 6617 B	D R	30.4	4	R	150	4920	32x6	32x6 D
Willys-Knight 26	2½	2595	Own K G T	6	3⅜x4¾	27.3	Pw	Til	Vac	Aut	Ful G U	U	4	Wis 6617 B	D R	30.4	4	R	164	5020	32x6	32x6 D
Willys-Overl'd T 101	1	....	Own W K	6	2⅛x3⅞	20.7	Pb	Til	Vac	Aut	Ful WO	U	4	Clark B 364	Sp	33.5	4	R	131	2700	30x5	30x5
Willys-Knight T 103	1	....	Own Pop't	6	3¼x3⅞	23.4	Pb	Til	Vac	Aut	Ful WO	U	4	Clark B 364	Sp	33.5	4	R	131	2600	30x5	30x1

GENERAL NOTATIONS

***†REFERENCE MARKS** apply to individual lines only and explanations are given under the subdivision for each company in the **"SPECIAL NOTATIONS."**

CAPACITIES given in this table are in tons or fractions of tons. Bus capacities are given in number of passengers. *On GMC Line shows maximum allowable gross weight.

TIRE EQUIPMENT where not otherwise indicated is solid.

WHEEL BASES given are standard, but optional wheel bases are available in many cases.

ENGINE—Bud, Buda; Con, Continental; Her, Hercules; Kgt, Knight; Lyc, Lycoming; Wak, Waukesha; Wis, Wisconsin.

LUBRICATION—Pb, pressure lubrication to main and connecting rod bearings; Pw, full pressure lubrication to all bearings, including wrist-pins; P&S, pressure with splash; CS, circulating splash. Sp, Splash.

CARBURETOR—Car, Carter; Hol, Holley; Joh, Johnson; Mar, Marvel; Sch, Wheeler-Schebler; Str, Stromberg; Stw, Detroit lubricator; Til, Tillotson; Zen, Zenith-Detroit.

FUEL FEED—Gra, Gravity; Pre, Pressure; Vac, Vacuum tank; P, Fuel pump Auto-P, Auto pulse; E, Electric pump.

IGNITION—AB, American-Bosch; Aut, Electric Auto-Lite; Apo, Apollo; Del, Dayton Engine Laboratory; Eis, Eisemann; L-N, Leece-Neville; N-E, North East; RB, Robert Bosch; Rem, Delco-Remy; Spf, Splitdorf.

TRANSMISSION—Br L, Brown-Lipe; Cov, Covert; Ful, Fuller; Mec, Mechanics Machine; Mun, Muncie; W-G Warner Gear.

LOCATION—C, Center, Amid; U, in unit with engine, J, Jackshaft.

REAR AXLE—Cla, Clark Equipment; Col, Columbia; Eat, Eaton; Sal, Salisbury; Tim, Timken; Wis, Wisconsin.

FINAL DRIVE—St, Straight bevel; Sp, Spiral Bevel; Wo, Worm; DR, Double Reduction; Ch, Chain; IG, Internal Gear.

BRAKES—Js, Jackshaft; R, Rear wheels; D, Drive Shaft; 4, Four-wheel; Tr, Transmission; W, Westinghouse air brake.

TIRES—B, Balloon; D, Dual; S, Solid.

SPECIAL NOTES

AMERICAN-LA FRANCE

**On Model W—This model is also available with worm drive axle.

AUTOCAR

†Engines in these models are located under the driver's seat.

DURANT LINE

*Price includes panel body.

G. M. C. LINE

*Capacity given in all cases is maximum allowable total gross weight, including chassis, cab, body and load.

Model T-19 is available in six standard types with different tire and wheel equipment. Each has a specified straight rating capacity. Three types have 127¾-inch wheel base and three have 145¾-inch wheel base.

Model T-30 is built in nine types, varying in capacity, tire and wheel equipment on three wheel bases—136, 152, 164 inches.

Model T-42 is built in twelve types, varying in capacity, tire and wheel equipment on four wheel bases—136, 152, 164, 175 inches.

Model T-60 is built in twelve types, varying in capacity, tire and wheel equipment on four wheel bases—140, 160, 180, 200 inches.

Model K-102 is also built as type 6002 with the same specifications except on 184-inch wheel bases. Price $4,350.

FLEET-ARROW LINE

*Model F. A. 1 is also available as Model F. A. 2, at $2,500 on wheel base of 160 inches, weight 3,975 lbs., and as Model F. A. 3, at $2,550, with seven speed transmission, on 180-inch wheel base, weight 3,955 lbs.

HAHN LINE

*Model 24 also available as Model 26, priced $1,495, on 144-inch wheel base, with Buda H. S. engine, 6-cyl. 3⅝x4½ inches rated 27.3 h. p., weight 3,200 lbs.

*Model 34 also available as Model 36, with Buda H. S. 6 engine (described above), weight 3,850 lbs.

*Model 44 also available as Model 46, priced $2,410, on 156-inch wheel base, with Buda H. S. 6 engine, as in Model 26, weight 4,200 lbs.

†Model 56 also available on 171-inch wheel base.

INTERNATIONAL HARVESTER LINE

*Model HS-54 also available in the following wheel bases, 130-inch tractor, 170, 185 and 200-inch.

*Model HS-54-C also available in the following wheel bases, 130-inch tractor, 170, 185 and 200-inch.

†Frame is reinforced with inserted channels in each side rail, extending from dash to rear end.

*Model HS-74 also available in the following wheel bases, 144-inch tractor, 185, 210 and 235-inch.

*Models HS-74-C and HS-104-C also available in the following wheel bases, 146-inch tractor, 185, 210 and 235-inch.

All Model HS heavy-duty International truck models are equipped with built-in vibration dampered clutches.

LARRABEE

*Note—Bevel gear, worm or double reduction drive rear axle available in models 40 and 50. Bevel or double reduction axles available in 30. Worm or double reduction axles in 60 and 70. Three or more wheel bases in each model. All Larrabee models have hydraulic brakes; 40 up have vacuum booster.

MACK LINE

*Model AB, 1½ to 2 ton model, also available with double reduction rear axle; priced $3,450.

*Model AB, 2½ to 3 ton model, also available with double reduction rear axle; priced $3,850.

CT—City type bus.
P—Parlor type bus.
†Gas electric drive.
**Equipped with electric brakes on rear wheels and hand brake on drive shaft.

PIERCE-ARROW LINE

*Model FA1 also available as Model FA2, at $2,500 on 160-inch wheel base, weight 4,150 lbs., and also as Model FA3, at $2,550 on 180-inch wheel base, weight 4,200 lbs.

*Model XA1 also available as Model XA2, at $3,550 on 162-inch wheel base, weight 6,300 lbs.

*Model XB1 is also available as Model XB2, at $3,800 on 180-inch wheel base, weight 6,900 lbs.

*Model HB1 is also available as Model HB2, at $4,550 on 180-inch wheel base, weight 8,500 lbs., and also as Model HB3, at $4,600 on 198-inch wheel base, weight 8,700 lbs.

*Model WC1 is also available as Model WC2, at $5,150 on 180-inch wheel base, weight 8,950 lbs., and also as Model WC3, at $5,250 on 198-inch wheel base, weight, 9,050 lbs.

*Model RD1 is also available as Model RD2, at $5,450 on 180-inch wheel base, weight 9,650 lbs., and also as Model RD3, at $5,500 on 198-inch wheel base, weight 9,750 lbs.

*Model RF1 is also available as Model RF2, at $5,650 on 204-inch wheel base, weight 10,500 lbs.

†Seven-speed transmission also available.

REPUBLIC LINE

*Model 75-4, also available as Model 75-6, priced $1,495, on 128-inch wheel base, with Lycoming 4SL engine, 6-cyl. 3¾ by 4½ inches, rated 25.3 h. p., weight 3,150 lbs.

*Model 76-4, also available as Model 76-6, priced $1,675, on 150-inch wheel base, with Lycoming 4SL engine, as in Model 75-6, weight 3,500 lbs.

†Model 60-61, also available with four-wheel brakes, $3,155.

**Model 62, same as 60-61, on 171-inch wheel base, $3,940.

†Model 25W—25WRB available with four wheel brakes.

**Model 66, same as 65, on 200-inch wheel base, $3,750.

**Model 25W, 25WB and 25WBR also available in 3½-ton capacities as Models S25W, S25WB and S25WRB on wheel bases of 165, 156 and 124 inches, priced $3,695.

**Models 35 and 35B also available in 5-ton capacities on wheel bases of 170 and 157 inches, priced $5,145.

**Model 85 also available on Model 86 on 170-inch wheel base, price $2,150.

**Model 50-51 also available as Model 51 on 170-inch wheel base.

REO LINE

*Tonner in wheel base, 123, 138; 1½ in wheel base, 137, 156, 152; 2 in. wheel base, 152, 168, 3 in. wheel base, 168, 179, 134.

STEWART LINE

*Buddy ¾-ton can be equipped with 4 wheel brakes.

*Buddy 1-ton can be supplied in 138-inch wheel base.

*Models 16 and 16X can be supplied in 145-inch and 160-inch wheel base.

*Models 24 and 24X can be supplied in 132 and 160-inch wheel base.

*Models 25, 25W, 25X and 25XW can be supplied with dual 32x6 tires, also 160-inch wheel base.

*Model 26X and 26XW can be supplied in 148 and 180-inch wheel base.

*Model 18X can be supplied in 148 and 160-inch wheel base.

*Models 19X and 22X can be supplied in 148, 172, 190 and 220-inch wheel base.

WHITE LINE

*Bus Model 53 is equipped with Booster Brakes and 50B and 54 with air brakes. Model 58 with air brakes as optional equipment.

Model 60 gross weight capacity, with 32x6 tires, 8,000 lbs.; 34x7.50 balloon tires optional at extra cost.

†Supplied in optional wheel bases.

FORD LINE

*Rear axle ratios of 5.1 to 1 and 7.25 to 1 are also available.

Marmon Offers New Roosevelt Eight at $995

Performance and Riding Qualities Feature New Car

(Continued from Page 2)

enables the engine to reach its highest operating efficiency promptly, and also maintains a constant engine temperature in all climates and under all conditions. The radiator, which is the cellular core type, is inclosed in a pressed steel shell. The capacity of the entire cooling system is 5½ gallons.

Clutch and transmission are in unit with the engine. The transmission has three speeds forward and one reverse, and the clutch is of the single-plate, dry, elastic-drive type.

A front axle of the I-beam reverse Elliott type is used, and the rear axle is semi-floating, with a road clearance of 8½ inches under the differential housing. Final drive is through the rear springs by means of a spiral bevel gear in the rear axle. The gear ratio on all models is 4.9 to 1. Balloon tires, 29x5 inches in size, are mounted on 19-inch wheels.

Two-shoe internal expanding four-wheel service brakes are used. They are fully inclosed to prevent water, mud or grit from injuring the drum or brake lining. Braking power is divided equally between front and rear wheels, with a total of 146¼ square inches of braking surface provided.

The hand brake likewise operates on all four wheels.

Marmon engineers conducted long experiments in chassis design, with particular attention to the spring suspension and unsprung weight. Semi-elliptic springs, covering more than 80 per cent. of the car's wheel base, are used. The front springs are 37 inches long and the rear springs are 54⅛ inches long. Seven leaves are used in the front springs and eight in the rear.

Springs are mounted with metal shackles that are self-adjusting, with a tapered pin and spring clamps at the side, automatically compensating for wear. Both rear and front springs are of silichrome manganese steel and all leaves are 1¾ inches in width.

Lovejoy hydraulic shock absorbers are engineered into the frame at the time of manufacture and, therefore, are an important factor in the prevention of road shock.

Sturdy, rugged steel frame is used with channel side members of 6-inch depth and 2-inch flange. It is rigidly braced with channel and tubular cross members, joined to the side members by means of heavy gusset plates. A steel running board adds to the strength of the entire structure and also serves as an important safety factory by acting as a side bumper.

Steering gear is of the Ross cam and lever type which permits extreme ease and steadiness of control at all speeds. The turning radius of the car is thirty-six feet. The steering wheel, which is eighteen inches in diameter, is of the popular small grip type, constructed of black bakelite. The steering column is adjustable to suit the comfort and convenience of the driver.

New and improved "single button" control is used, with a button, mounted in the center of the steering wheel, operating the starter, lights and horn. To start the car it is but necessary to pull the control, which also may be turned to the right and left for bright, dim and parking lights. The horn is operated by pushing the button.

All body types are distinctive and original and embody the newest and most up to date features of design. Likewise, many comfort factors have been incorporated in the interiors of all body styles.

Bodies are manufactured in Marmon factories under the supervision of Marmon inspectors. They are of steel and wood construction with particular attention being paid to such details as the opening angle of all doors, ample leg and head room in both passenger and driving compartments, and color treatment.

The front end of the car is enhanced by the headlight ensemble, both lamps being mounted to conform to the high, narrow radiator. Marmon engineers have departed from the customary method of mounting cowl lamps, which, on the Roosevelt, are mounted below windshield pillars and close in to the body.

All exterior parts are chromium plated, including the bumpers. Two cowl ventilators, independently operated by levers beneath the instrument panel, are included on all models, and are designed to blend into the panel design on the top of the hood. Window and door pillars are unusually narrow, and wide windows are controlled by easily accessible crank within the car.

The windshield may be opened forward to a 45-degree angle. Cars with wire wheel equipment have welled fenders and rigid and attractive supports for spare wheels mounted forward.

All Roosevelt body styles will be available in a variety of Marmon Jewel colors, with combinations specially selected to blend into the general appearance of the car with reference to paneling and molding. Attractive stripings and contrasting panels add further to the general appearance.

The Roosevelt five-passenger sedan has front and rear seats of unusual width with deep cushions and davenport type springs, high, form-fitting seat backs and ample leg and head room. Other body styles are comfortably designed and are constructed to adequately seat the designated number of passengers. Rumble seats are provided in the two-passenger coupe and collapsible coupe.

Interior upholstery is of broadcloth in new and interesting patterns, and two-tone hardware is designed to conform with the general luxuriousness of the cars. Curtains are provided at rear, and rear quarter windows, with arm rests, robe rail, foot rest and garnish moldings of unusual design.

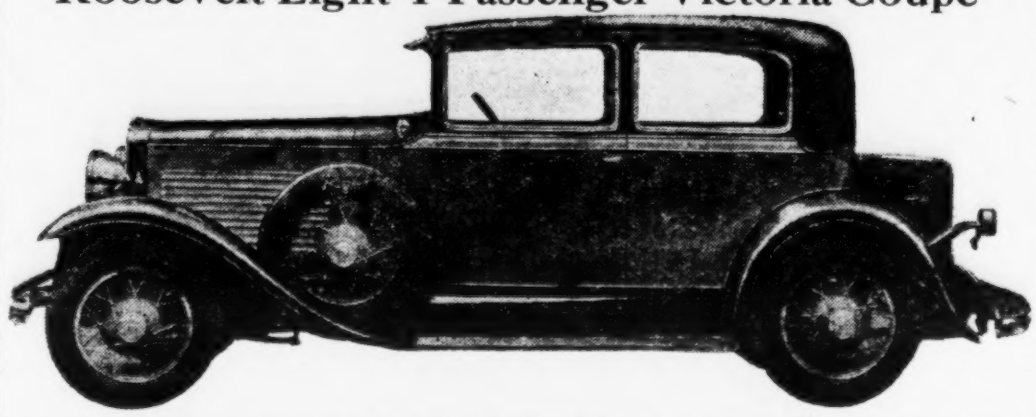
Instruments are grouped in an attractive panel, and include a speedometer, gasoline gauge, oil gauge and ammeter. Indirect lighting supplies ample visibility without glare. A coil lock and ignition switch, operated by a key at the right side of the instrument board, locks both ignition and coil with one operation. With the coil fastened to the back of the instrument board it is impossible for the would-be thief to rewire the car or circumvent the lock.

Coincident with the announcement of the mechanical details of the line, G. M. Williams, Marmon president, issued a statement, in which he said that a full program of production and distribution already is under way.

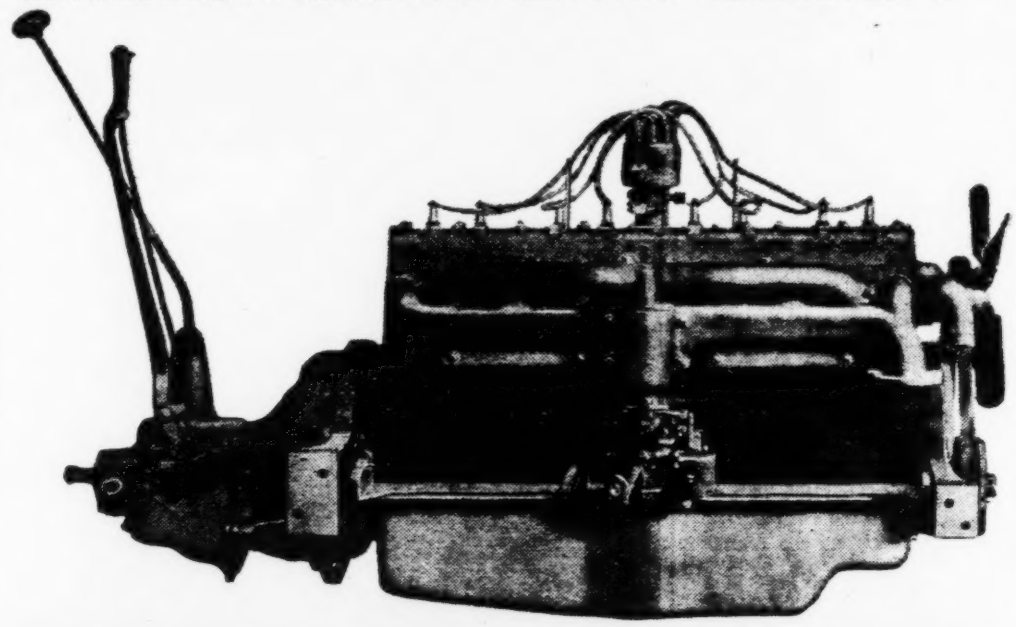
"Initial production of the Roosevelt will be approximately 200 cars a day," Mr. Williams said, "and this will be in addition to continued quantity manufacture of the two other lines of Marmon straight eights.

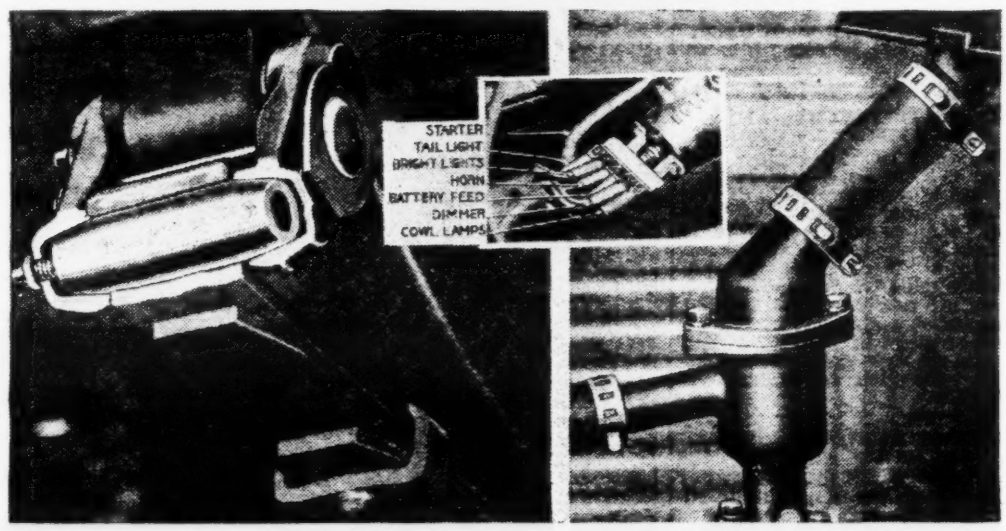
"In concentrating our entire factory facilities on automobiles of straight-eight design, we have been able to effect unusual economies in production and during the last year our dealer and distributor organization has enjoyed widespread expansion, thereby assuring quantity distribution of Marmon products. It is because of these factors that Marmon now is able to introduce the first straight-eight ever manufactured to sell in the vast market under $1,000."

Roosevelt Eight 4-Passenger Victoria Coupe



Mechanical Features of the New Roosevelt 8





Above is shown a view of the right side of the new Roosevelt straight-eight engine which develops over 70 horse power at 3,200 r.p.m. A special down draft type manifolding is used and the Marmon oscillating vibration modulator. The lower pictures show the self-adjusting Tryon spring shackles at the left, the unique centralization of the starter, lighting and horn control in a single button at the center of the steering wheel (center) and the thermostatic control of water circulation (right).

We could build more, but not better axles than our present

CLARK AXLES

Production demands of the larger passenger vehicle and truck manufacturers have increased our axle production schedules steadily. This marks an ever-growing appreciation of the standard to which we build.

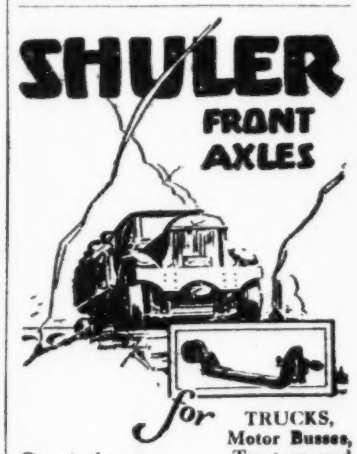
The same precision of design and workmanship produces

CLARK METAL WHEELS

with Strength of Steel.

Manufactured by
CLARK EQUIPMENT COMPANY
Buchanan
Michigan

SHULER FRONT AXLES



for TRUCKS, Motor Busses, Tractors and Trailers

Satisfactory Experience

Claims of one sort or another can be made from time to time, but after all the ultimate and final test of a product is the business that repeats as a result of satisfactory experience.

FRONT AXLES ONLY—with and without brakes.

SHULER AXLE CO.
INCORPORATED
LOUISVILLE KENTUCKY
MEMBER OF MOTOR TRUCK INDUSTRIES, INC. OF AMERICA

M. E. A. SEES PARTS SALES AT RECORD

Makers and Jobbers Begin Year With Upward Trend

(Continued from Page 1)

districts of the United States and in Canada Approximately 300 members are contributing to these reports.

On an index basis, the January shipments of all groups of manufacturers aggregated 188 per cent. of the January, 1925, base index, as compared with 153 per cent. for January last year. Original equipment makers' shipments, larger than in any previous months except March, April, May, August and September last year, aggregated 212 per cent. of January, 1925, as compared with 163 per cent. last year. Service parts shipments to the trade totaled 141 per cent., as compared with 137 per cent. last year; accessory shipments 77 per cent., as compared with 79 per cent., and shop equipment shipments 173 per cent., as compared with 142 per cent. last January.

In the wholesale field the M. E. A. has adopted January, 1928, as its base index of 100. January sales this year of all reporting wholesalers in the United States and Canada were 114 per cent., and accounts receivable at the end of January aggregated 107 per cent. The greatest gain in sales was in Canada, and all districts of the United States showed gains except two, one of which ran about even with last year, while the other dropped slightly behind.

Neal G. Adair, sales development manager of the M. E. A., whose department conducts the Business Bulletin, states that while February figures are not yet available, informal reports indicate a continuance of the high January rate of production and sales, with further expansion virtually assured for the months just ahead.

OUTLOOK BRIGHT FOR TRUCK SALES

Dealers in Kansas City Area Report Gains, Prospects

By H. H. JAMES

KANSAS CITY, Feb. 28.—Kansas City truck dealers and distributors are looking forward to the best spring business in the history of the industry. A survey among the dealers, distributors and factory branches here reveals the largest number of prospects ever recorded.

Naturally there are duplications, but after the deductions for this are made, the list still is large and impressive. Many of the lists include orders booked for March and April delivery.

January and February sales have, on the whole, ranged well above a year ago, some reporting 100 per cent. gains. The interest in the truck field was well attested by the interest shown in the truck displays at the Kansas City automobile show.

Harry Miller, manager of the commercial car division of the Berryman Reo Company, Inc., Reo distributor, says January truck sales were about 100 per cent. better than a year ago, with February sales also far ahead.

The Kansas City branch, International Harvester Company of America, has been having a big increase in truck sales, W. L. Simms, branch manager, reports. He also is expecting 1929 to be the banner truck year in the history of the industry.

C. F. Rouze, branch manager of the General Motors Truck Company here, says sales so far this year have been well ahead of last, and that he is expecting a regular "rush" with the opening of spring. He recently sold a fleet of fourteen trucks to the Colonial Bakery Company for delivery to different cities where the company operates.

Harry Lilley, president of the Lilley Motor Company, distributor of De Soto automobiles and Fargo trucks, says sales on the Fargo line are very pleasing.

B. L. Marshall of Morgan-Marshall Motors, Republic truck distributor, says sales, while only fair this year, are better than a year ago.

C. G. Rowan, manager of the Diamond T branch here says January deliveries were "up to expectations," with the spring prospects most promising.

Frank Dearinger of D. M. S.-Indiana Truck Company, Indiana distributor, says sales this year have been only fair, but are ahead of last

C. W. Harder, manager of the commercial car division of the Dial-Walsh Motor Company, Dodge distributor, says sales and prospects are good. The company has just sold a fleet of eighteen trucks to the Nafziger Baking Company. The trucks are of the three-quarter-ton type with special bodies.

A 100 per cent. gain in January is reported by the Mack International Truck Company branch, with February sales also good.

The Auto Gear and Parts Company, distributor of Master trucks, has had only a fair business this year, but prospects are reported as good, with a big sale on parts and shop work.

The F. W. D. branch has been doing a "land office business," not only in the new six-cylinder type trucks but also on the V-type snowplows, distributed by the company, which are used on F. W. D. trucks. The branch delivered four of the new trucks to the Missouri Highway Department, with plows attached, and sixteen more plows for use on old trucks. Nine of the plows were sold to the Kansas Highway Department and different counties in the two states.

Schmidt Welcomed at Osaka

WALTON SCHMIDT, field representative of the National Automobile Chamber of Commerce, is shown above being received by the welcoming committee at Osaka, Japan. Mr. Schmidt has just returned from his second trip to the Far East for the chamber.

ERLINDER-PLATT SALES TO OPEN PEORIA BRANCH

Peoria, Ill., Feb. 28.—A local branch of the Erlinder-Platt Sales Corporation is to be opened in the Federal warehouse here to handle bodies for all makes of motor trucks. H. R. McMullen of this city is manager in charge, and John E. Cook will have supervision of sales in adjacent territory.

SYNDICATE PURCHASES DODGE MFG. CO. OF CANADA

Montreal, Feb. 28.—Rumors have been rife for some time as to a change of ownership of the Dodge Manufacturing Company of Canada, Ltd., manufacturer of power transmission machinery, with plants located at Toronto and branches at Montreal and Winnipeg. These rumors are now confirmed, it being announced a syndicate of Toronto and Montreal capitalists has purchased the business from the former owner, the estate of the late C. F. Wheaton.

GENERAL ELECTRIC CUTS PRICES ON MAZDA LAMPS

Schenectady, N. Y., Feb. 23.—Mazda lamp prices were again reduced as on March 1 on the 50 and 60 watt lamps of the standard line of inside frosted lamps, President Gerard Swope of the General Electric Company has announced. Price reductions were also made on all colored lamps except flame tints. This is the twelfth time that Mazda lamp prices have been reduced since 1920.

Schmidt of N.A.C.C. Finds Automotive Outlook Improving in Foreign Lands

New York, Feb. 28.—Adoption of a national road program by the Japanese government is one of the many signs of progress in motor transport observed by Walton Schmidt, representative of the National Automobile Chamber of Commerce, who returned this week from a year's trip in the Far East.

This highway program will be built from bond issues, with the maintenance charges cared for by motor vehicle taxes.

Record sales of cars in New Zealand, the adoption of a uniform motor code in the Dutch East Indies, and growth in the motor bus business in most Far East countries are among the new trends which Mr. Schmidt noted.

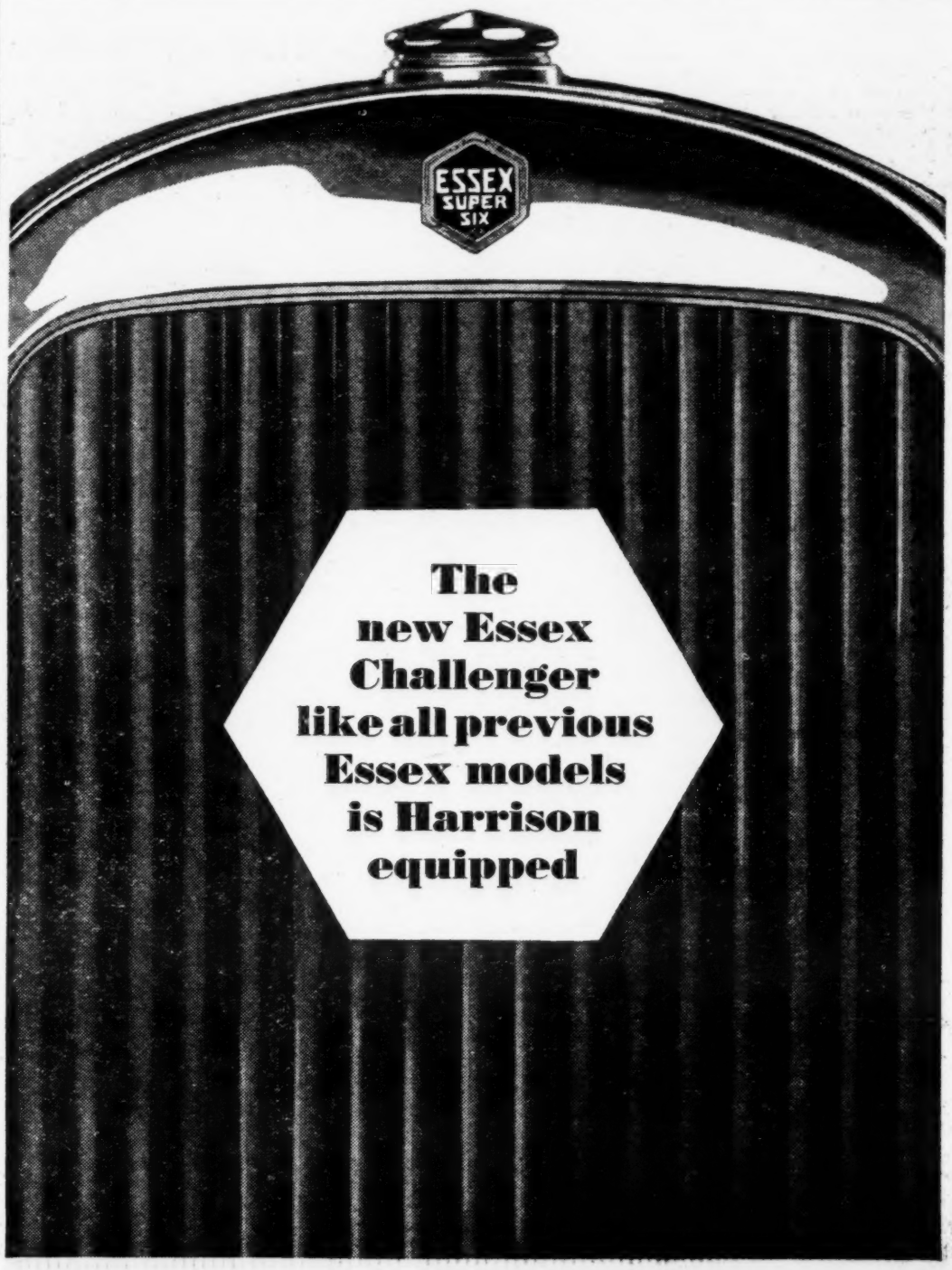
Mr. Schmidt's tour, which is the second in that territory, was undertaken at the request of automotive groups abroad seeking data on the methods which have been used to develop motor transport in the United States. He appeared before government officials and motor clubs of most of the large cities in Japan, Manchuria, China, Philippine Islands, Malaya, Java, Australia and New Zealand. His lectures embraced the latest information on road building, taxation, regulation, finance, accident prevention and traffic control.

"About 90 per cent. of the motor cars operating in Japan are used as buses or for-hire vehicles," said Mr. Schmidt. "Because of this wide usage by the public, taxation on common carriers is lower than on private cars. There is a similar heavy bus patronage in Manchuria.

"In China there are now about 18,000 miles of roads over which cars can travel in favorable seasons of the year. The new government is busy with reconstruction and road building as one of the major means by which it is hoped to unify the country, bring back prosperity and prevent famines. At Shanghai there are more than 12,000 passenger cars and trucks, while many individual operators are establishing bus lines into the interior.

"Though markets were relatively quiet in Malaya during the past year because of the rubber situation, both registrations and road building are on the increase.

"Labor difficulties have hampered prosperity in Australia during the past year, but the outlook is brighter for 1929. Heavy taxation on commercial vehicles is an obstacle to commercial motor transport, though this country is one of the largest buyers of motor vehicles in the world.

"During 1928 the government spent more than ten and a half million dollars on roads and bridges in the Philippine Islands. These highways are opening up entirely new sections for cultivation into which hundreds of thousands of persons are moving from sections which were over-populated. There are more than 3,000 motor buses in this country of a total of about 32,000 motor vehicles of all kinds."

In Japan the motor vehicle, tire and accessory dealers have united to form a National League Motor Organization. Under the auspices of this group Mr. Schmidt delivered over fourteen lectures illustrated with motion pictures in Japan. There are about 60,000 motor vehicles in that country, which is adding yearly to its registration figures.